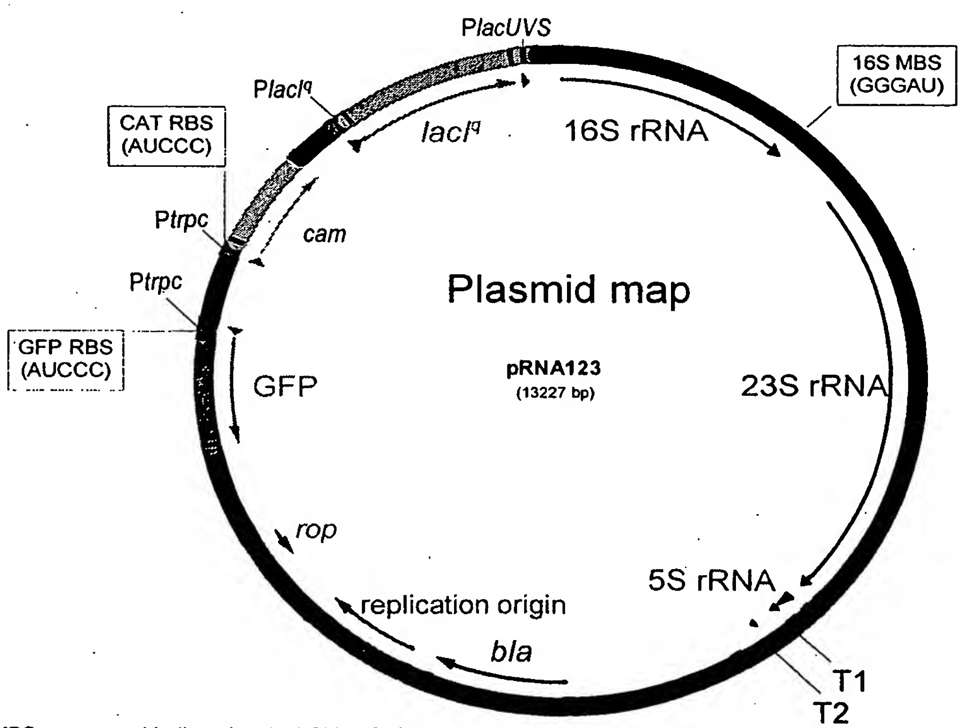
Necleotide	Description
1-1542	16S rRNA of *Escherichia coli* rrnB operon
1536-1540	16S MBS (message binding sequence) GGGAU
1543-1982	16S-23S spacer region
1983-4886	23S rRNA of *Escherichia coli* rrnB operon
4887-4982	23S-5S spacer region
4983-5098	5S rRNA of *Escherichia coli* rrnB operon
5102-5145	terminator T1 of *Escherichia coli* rrnB operon
5276-5305	terminator T2 of *Escherichia coli* rrnB operon
6575-7432	*bla* (β-lactamase; ampicillin resistance)
7575-8209	replication origin
8813-8622	*rop* (Rop protein)
10201-9467	GFP (Green Fluorescent Protein)
10213-10209	GFP RBS (ribosome binding sequence) AUCCC
10270-10230	*trpc* promoter
10745-10785	*trpc* promoter
10802-10806	CAT RBS (ribosome binding sequence) AUCCC
10814-11473	*cam* (chloramphemcol acetyltransferase: CAT)
11782-11859	*lac*^{q} promoter
11860-12942	*lacI*^{q} (lac repressor)
12985-13026	*lacUV5* promoter



MBS=message binding site=Anti-Shine-Dalgarno sequence
RBS=ribosome binding site=Shine-Dalgarno sequence

Fig. 1

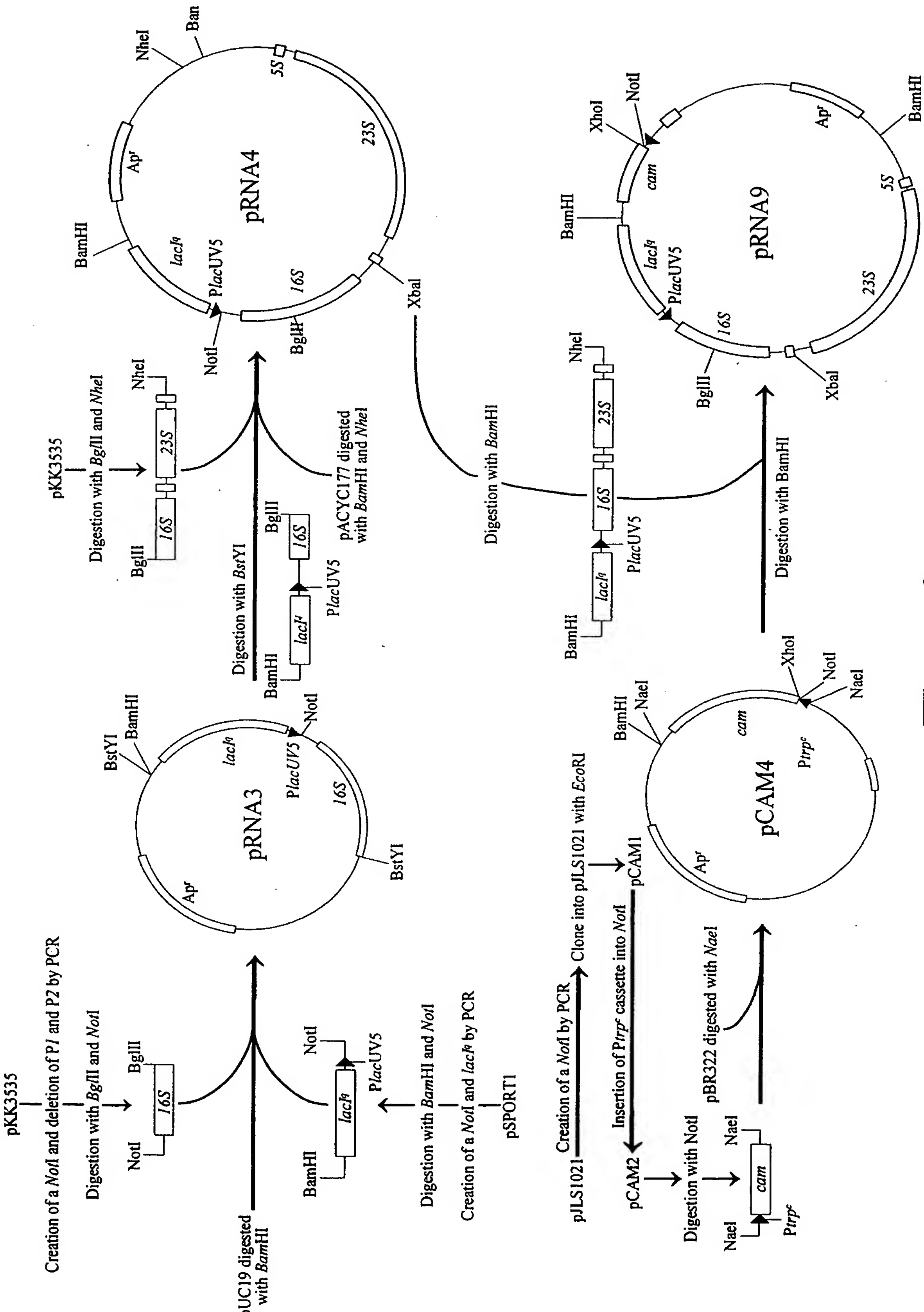

pKK3535
Creation of a NotI and deletion of P1 and P2 by PCR
Digestion with BglII and NotI
NotI
16S
BglII
pUC19 digested with BamHI
BamHI
lacIq
NotI
PlacUV5
Digestion with BamHI and NotI
Creation of a NotI and lacIq by PCR
pSPORT1
pRNA3
Apr
lacIq
PlacUV5
16S
BstYI
BamHI
NotI
Digestion with BstYI
pKK3535
Digestion with BglII and NheI
BglII
16S
23S
NheI
BamHI
lacIq
PlacUV5
BglII
16S
pACYC177 digested with BamHI and NheI
pRNA4
NheI
Ban
5S
23S
Apr
BamHI
lacIq
PlacUV5
16S
NotI
BglII
XbaI
Digestion with BamHI
BamHI
lacIq
PlacUV5
16S
23S
NheI
Digestion with BamHI
pRNA9
XhoI
NotI
Apr
BamHI
cam
lacIq
PlacUV5
16S
BglII
XbaI
5S
23S
pJLS1021
Creation of a NotI by PCR
Clone into pJLS1021 with EcoRI
pCAM1
Insertion of Ptrpc cassette into NotI
pCAM2
Digestion with NotI
NaeI
cam
NaeI
Ptrpc
pBR322 digested with NaeI
pCAM4
BamHI
NaeI
cam
Ptrpc
XhoI
NotI
NaeI
Apr

Fig. 2

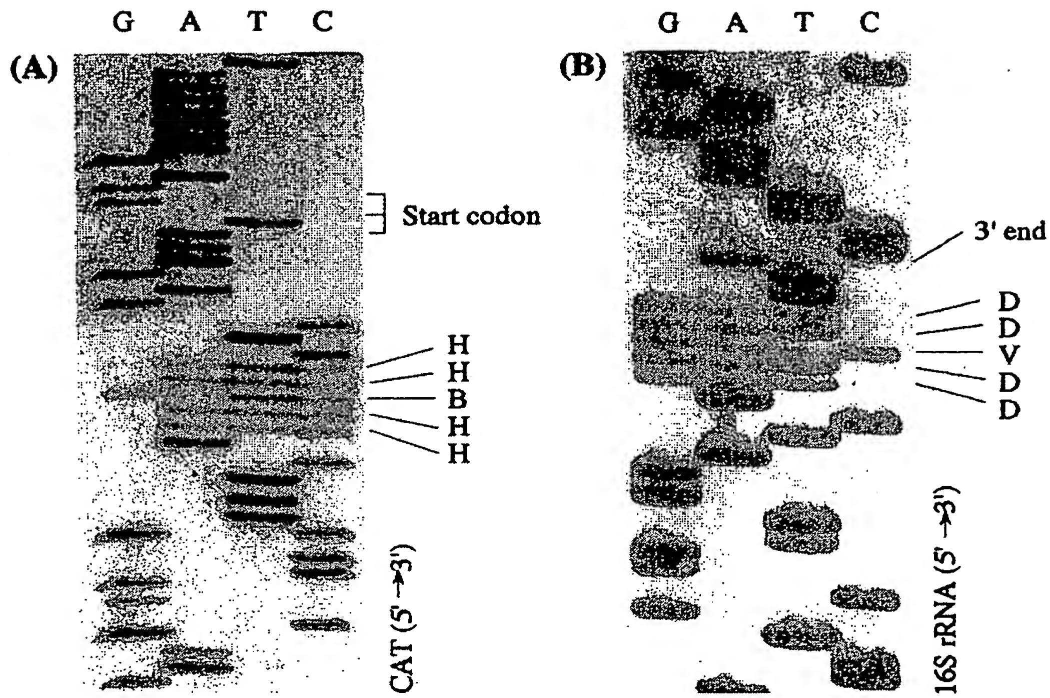


Fig. 3

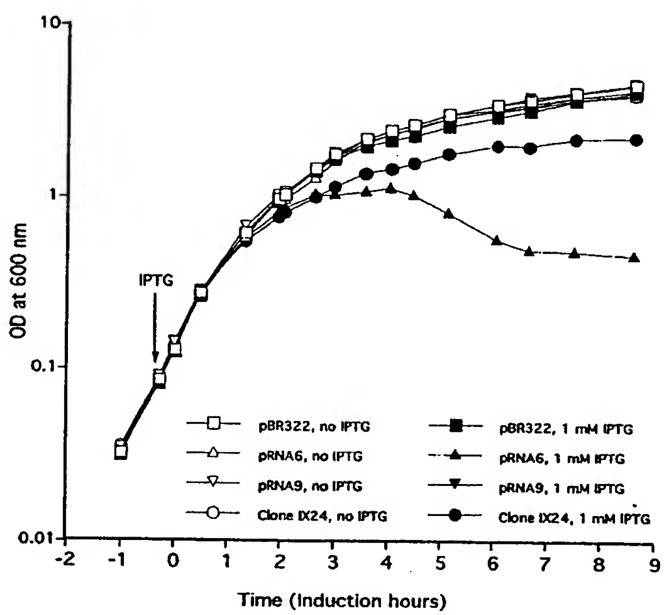
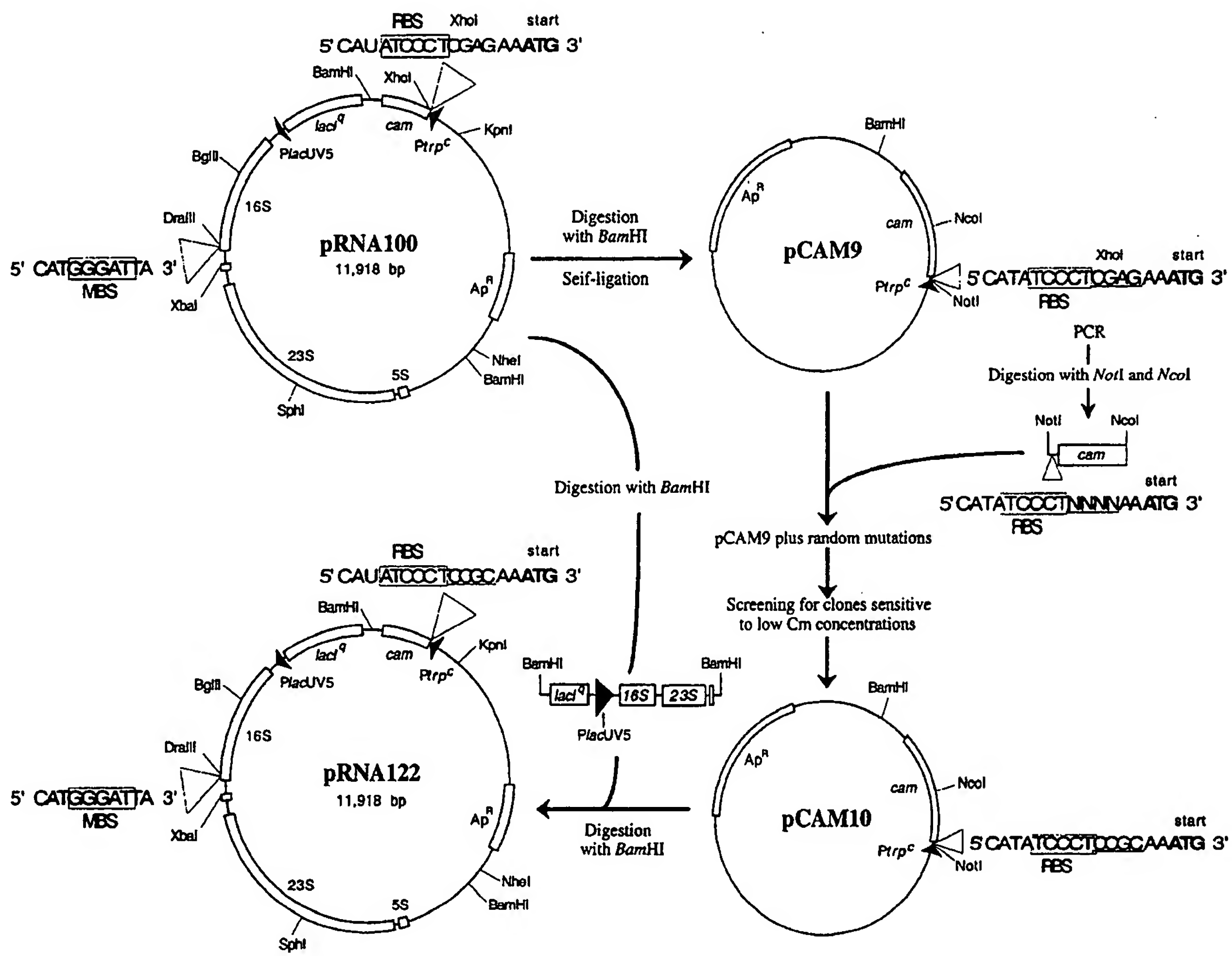
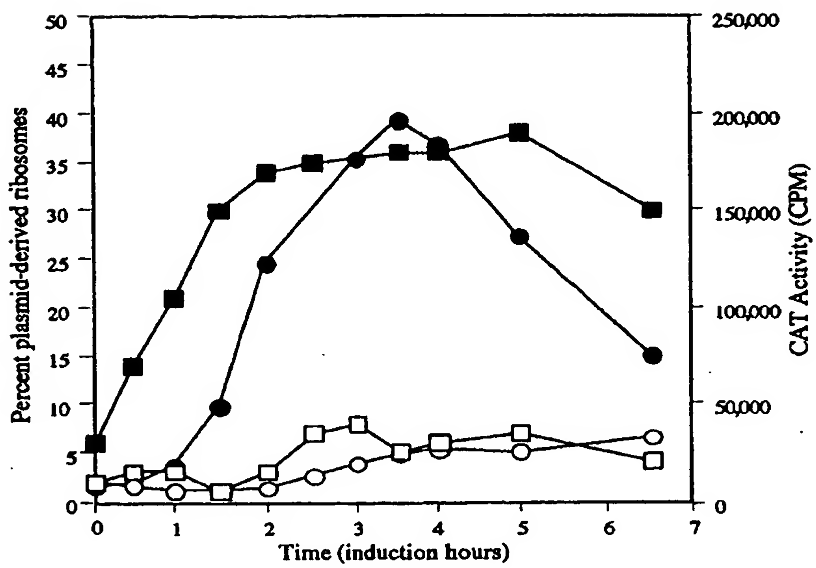

10
1
0.1
0.01
OD at 600 nm
IPTG
-2
-1
0
1
2
3
4
5
6
7
8
9
Time (Induction hours)
pBR322, no IPTG
pRNA6, no IPTG
pRNA9, no IPTG
Clone IX24, no IPTG
pBR322, 1 mM IPTG
pRNA6, 1 mM IPTG
pRNA9, 1 mM IPTG
Clone IX24, 1 mM IPTG

Fig. 4



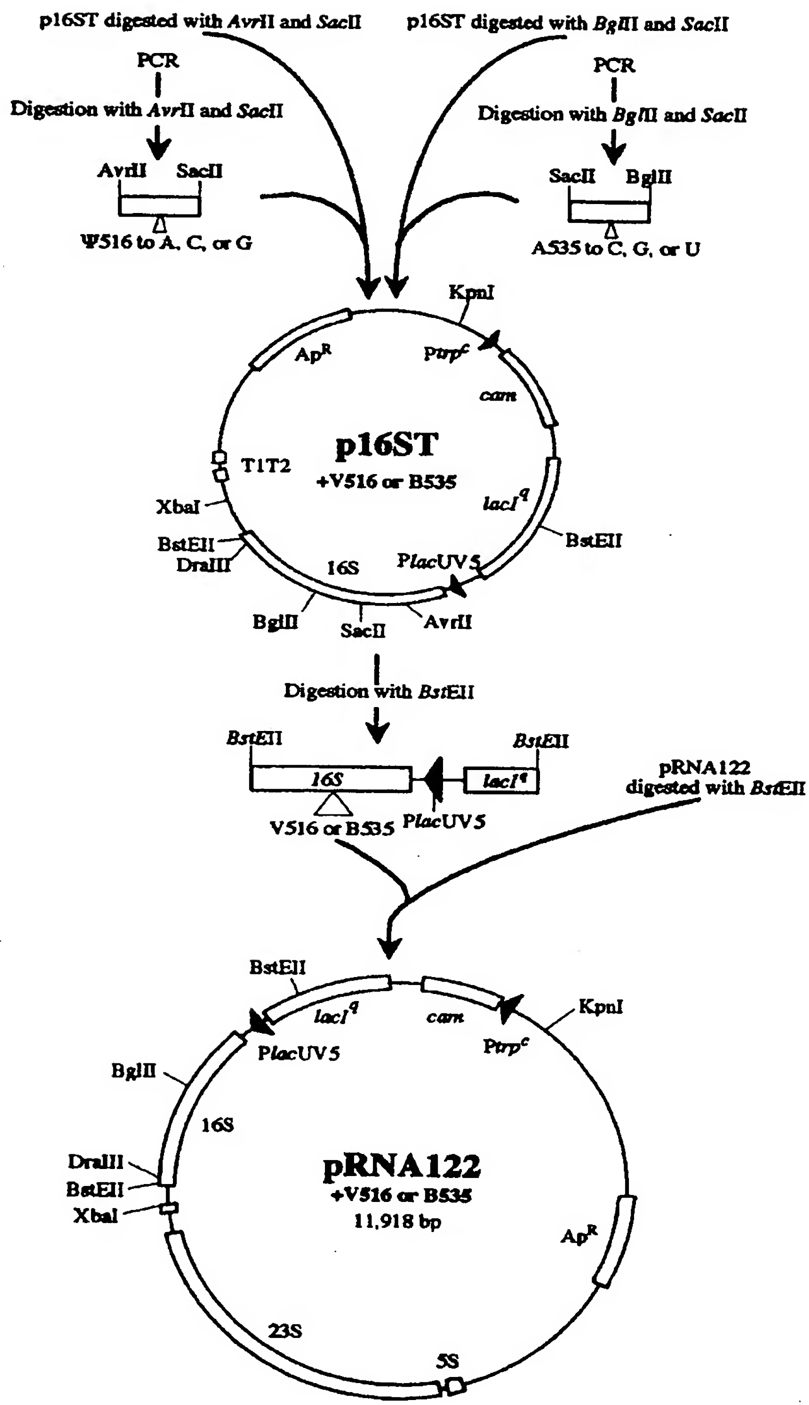
RBS
XhoI
start
5' CAUATCCCTCGAGAAATG 3'
BamHI
XhoI
lacI^q
cam
KpnI
Ptrp^c
BglII
PlacUV5
16S
DraIII
pRNA100
11,918 bp
5' CATGGGATTA 3'
MBS
XbaI
Ap^R
23S
5S
NheI
BamHI
SphI
Digestion with BamHI
Self-ligation
BamHI
Ap^R
cam
NcoI
pCAM9
XhoI
start
Ptrp^c
5' CATATCCCTCGAGAAATG 3'
NotI
RBS
PCR
Digestion with NotI and NcoI
NotI
NcoI
cam
start
5' CATATCCCTNNNNAAATG 3'
RBS
Digestion with BamHI
pCAM9 plus random mutations
Screening for clones sensitive to low Cm concentrations
RBS
start
5' CAUATCCCTCCGCAAATG 3'
BamHI
lacI^q
cam
KpnI
Ptrp^c
BglII
PlacUV5
BamHI
BamHI
lacI^q
16S
23S
PlacUV5
16S
DraIII
pRNA122
11,918 bp
5' CATGGGATTA 3'
MBS
XbaI
Ap^R
Digestion with BamHI
23S
5S
NheI
BamHI
SphI
BamHI
Ap^R
cam
NcoI
pCAM10
start
Ptrp^c
5' CATATCCCTCCGCAAATG 3'
NotI
RBS

Fig. 5



Percent plasmid-derived ribosomes
CAT Activity (CPM)
Time (induction hours)
0
5
10
15
20
25
30
35
40
45
50
0
50,000
100,000
150,000
200,000
250,000
0
1
2
3
4
5
6
7

Fig. 6



p16ST digested with AvrII and SacII
p16ST digested with BglII and SacII
PCR
Digestion with AvrII and SacII
AvrII SacII
Ψ516 to A, C, or G
PCR
Digestion with BglII and SacII
SacII BglII
A535 to C, G, or U
KpnI
ApR
Ptrpc
cam
p16ST
+V516 or B535
T1T2
XbaI
lacIq
BstEII
BstEII
DraIII
16S
PlacUV5
BglII
SacII
AvrII
Digestion with BstEII
BstEII
BstEII
16S
lacIq
V516 or B535
PlacUV5
pRNA122
digested with BstEII
BstEII
lacIq
cam
KpnI
PlacUV5
Ptrpc
BglII
16S
DraIII
BstEII
XbaI
pRNA122
+V516 or B535
11,918 bp
ApR
23S
5S

Fig. 7

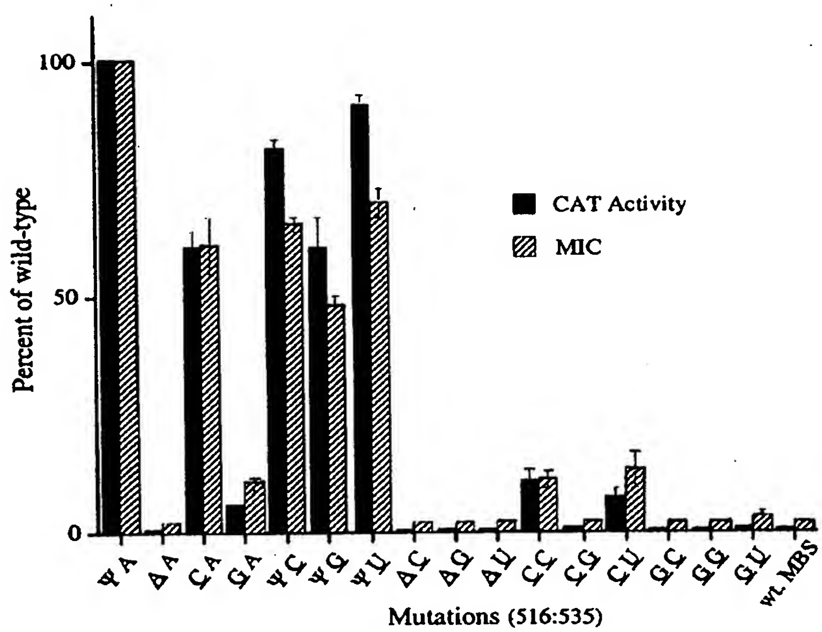

100
50
0
Percent of wild-type
CAT Activity
MIC
ΨA
ΔA
CA
GA
ΨC
ΨG
ΨU
ΔC
ΔG
ΔU
CC
CG
CU
GC
GG
GU
wt. MBS
Mutations (516:535)

Fig. 8

Oligo	Sequence (5′ to 3′)	Used for
OL2	ATAGGGGTTCCGCGCACATT	Primer *cam* from −268 to −249
IL2	CTCGAGCCTCCTGAAAGCGGCCGCAACTCAAAAAATACGCCCGGTAGT	Creating a *Not*I in the upstream of cam
OR2	AAATCGTCGTGGTATTCACT	Primer *cam* from 473 to 492
IR2	GCGGCCGCTTTCAGGAGGCTCGAGAAATGGAGAAAAAAATCACT	Creating a *Not*I in the upstream of cam
TRP′-T	GGCCGCTAGCCGGCGAGCTGTTGACAATTAATCATCGAACTAGTTTAATGTGTGGAAGC	Promoter *trp*^{c}, top strand
TRP′-B	GGCCGCTTCCACACATTAAACTAGTTCGATGATTAATTGTCAACAGCTCGCCGGCTAGC	Promoter *trp*^{c}, bottom strand
SD*-B	TCGAGCACACTGAAAGC	Mutated RBS for pCAM5; top strand
SD*-T	GGCCGCTTTCAGTGTGC	Mutated RBS for pCAM5; bottom strand
lacU	GGTCATAGGCGGCCGCTGTGTGAAATTGTTATCCGCTCACAATTCCACACATTATACGAGCCGGAAGC	Creating a *Not*I and P*lac*UV5 mutation in the 3′ end of *lac*I
lacL	TTGGATCCGACACCATCGAATGGTGCAAAACCTT	Creating a *Bam*HI and *lac*I^{q} mutation in the 5′ end of *lac*I
OL4	GAAGGGATCCGGCGAAGATGTTTCTCTGG	Primer 16S rRNA from −707 to −689; creating a *Bam*HI in the 5′ end of 16S rRNA
IL4	GCGGCCGCTTAAAATAATTTTCTGACC	Primer 16S rRNA from −351 to −333; deleting P1P2 and creating a *Not*I in the 5′ end of 16S rRNA
OR4	CCACAAGCTTCGCACCTGAGCGTCAGTCTTC	Primer 16S rRNA from 745 to 765; creating a *Hind*III in the middle of 16S rRNA
IR4	AAAATTATTTTAAGCGGCCGCTGAGAAAAAGCGAAGC	Primer 16S rRNA from −164 to −180; deleting P1P2 and creating a *Not*I in the 5′ end of 16S rRNA
ASD*-B	GGCGACTTTCACTCACAAAC	Primer tRNA^{Glu} from +8 to +27
ASD*-T	GTCGAAGCTTGGTAACCGTAGGGGAACCTGCGGTTGGATCACACACTTACCTTAAAGAAGCGTAC	Primer 16S from 1504 to +16, mutating the MBS region from $C^{1536}UC^{1538}$ to $A^{1536}CA^{1538}$
Cat-M-XhoI	TTAATGTGTGGAAGCGGCCGCTTTCATATCCCTNNNNAAATGGAGAAAAAAATC	Primer *cam* from −39 to +15; creating 4 nucleotide random mutations
Cat-N-NcoI	CAGCACCTTGTCGCCTTGC	Primer *cam* from 688 to 706

Fig. 9

Plasmid	Description	Reference
pUC19	Cloning vector	(67)
pBR322	Cloning vector	(73)
pACYC177	Cloning vector	(72)
pKK3535	pBR322 derivative containing intact *rrn*B operon	(31)
pSPORT1	pUC19 derivative containing *lacI*	(57)
pJLS1021	pBR322 derivative containing *cam*	(58)
pSTL102	pKK3535 containing U1192 in 16S rRNA and G2058 in 23S rRNA	(34)
pCAM1	pJLS1021 plus a *Not*I site in the upstream of *cam*	This study
pCAM2	pCAM1 plus P*trp*c between *Not*I sites in the upstream of *cam*	This study
pCAM4	pBR322 plus the NaeI fragment of pCAM2 containing *cam* under P*trp*c	This study
pCAM5	pCAM4 containing RBS (5′-GUGUG) of Hui et al. (1) in *cam*	This study
pCAM9	pCAM5 containing selected RBS (5′-AUCCC) in *cam*	This study
pCAM10	pCAM9 containing selected upstream sequence of *cam*	This study
pRNA3	pUC19 plus *lacI*q and 5′ end of 16S rRNA under P*lac*UV5	This study
pRNA4	pACYC177 plus *lacI*q and *rrn*B with wild-type MBS under P*lac* UV5	This study
pRNA5	pRNA4 containing MBS (5′-CACAC) of Hui et al. (1) in 16S rRNA	This study
pRNA6	pCAM5 plus the *Bam*HI fragment containing *lacI*q and *rrn*B from pRNA5	This study
pRNA8	pCAM5 plus the *Bam*HI fragment containing *lacI*q and *rrn*B from pRNA4	This study
pRNA9	pCAM4 plus the *Bam*HI fragment containing *lacI*q and *rrn*B from pRNA4	This study
pRNA100	pRNA8 containing selected MBS (5′-GGGAU) and RBS (5′-AUCCC)	This study
pRNA101	pRNA100 containing U1192 in 16S rRNA	This study
pRNA104	pRNA101 containing U2058 in 23S rRNA	This study
p16ST	pUC19 derivative containing *cam*, *lacI*q and 16S rRNA from pRNA100	This study
pRNA122	pRNA100 containing selected upstream sequence of *cam* from pCAM10	This study
pRNA170	pRNA122 containing U1192 in 16S rRNA and U2058 in 23S rRNA	This study

Fig. 10

	MIC with induction								
MIC with no induction	50	100	200	400	500	600	700	800	1000
50			4	1					
100		1	1	51	16	6	1		
200			3	121	45	10	2		
400				72	72	22	1	1	
600				4	11	20	3	60	3
700							1	3	
800									1
1000									

Fig. 11

Clone	RNA sequences	ΔG^{0}_{37}	MIC		CAT		Induction
	5′ C A R1 R2 R3 R4 R5 C U C G 3′ CAT mRNA		μg of Cm/ mL		CPM		
Random	3′ A U U M5 M4 M3 M2 M1 A C U 5′ 16S rRNA	kcal/mol	−I	+I	−I	+I	−I/+I
pRNA9	5′ C A G G A G G C U C G 3′ 3′ A U U C C U C C A C U 5′	−9.8	500	500	2803 ± 68	2700 ± 196	1.0
pRNA6	5′ C A G U G U G C U C G 3′ 3′ A U U C A C A C A C U 5′	−7.8	100	200	4033 ± 1040	12437 ± 2491	3.1
VII30	5′ C A U A U C C C U C G 3′ 3′ A U U U A G G G A C U 5′	−8.4	100	500	6293 ± 706	72206 ± 706	11.5
VII43	5′ C A A A C A C C U C G 3′ 3′ A U U G G A G A A C U 5′	−8.1	125	500	5603 ± 1011	47667 ± 891	8.5
VII64, VII65	5′ C A U A C C U C U C G 3′ 3′ A U U G G A G U A C U 5′	−7.3	100	500	6200 ± 953	37311 ± 3978	6.0
VIII29	5′ C A U A A U C C U C G 3′ 3′ A U U A G G A G A C U 5′	−10.9	125	600	7869 ± 416	91153 ± 4003	11.6
VIII46	5′ C A A A U A C C U C G 3′ 3′ A U U G G A G U A C U 5′	−7.7	100	500	6431 ± 816	46840 ± 796	7.3
VIII77	5′ C A C A U A C C U C G 3′ 3′ A U U G G A G U A C U 5′	−7.7	150	600	6794 ± 650	44358 ± 4841	6.5
VIII93	5′ C A C C G A C C U C G 3′ 3′ A U U G G A G A A C U 5′	−8.5	100	500	5643 ± 897	24888 ± 2388	4.4
IX24	5′ C A U A U C C C U C G 3′ 3′ A U U A G G G U A C U 5′	−7.3	100	650	7524 ± 263	91809 ± 4542	12.7
IX32	5′ C A A C U A C C U C G 3′ 3′ A U U G G A G U A C U	−7.7	100	500	5783 ± 971	32164 ± 5862	5.6
IX67	5′ C A U A U A C C U C G 3′ 3′ A U U G G A G A A C U 5′	−8.0	125	600	6063 ± 787	24581 ± 3009	4.1

Fig. 12

Clone Mutated positions	RNA sequences 5′ C A U A U C C C U N N N N A A A U G 3′ CAT mRNA 3′A U U A G G G U A C U A G G 5′ 16S rRNA	MIC (μg/mL) −I	 +I
pRNA100	5′ C A U A U C C C U C G A G A A A U G 3′ 3′ A U U A G G G U A C U A G G 5′	100	650
pRNA100 + wt MBS	5′ C A U A U C C C U C G A G A A A U G 3′ 3′ A U U C C U C C A C U A G G 5′	50	50
pRNA122	5′ C A U A U C C C U C C G C A A A U G 3′ 3′ A U U A G G G U A C U A G G 5′	50	600
pRNA122 + wt MBS	5′ C A U A U C C C U C C G C A A A U G 3′ 3′ A U U C C U C C A C U A G G 5′	10	10
pRNA125	5′ C A U A U C C C U C C U G A A A U G 3′ 3′ A U U A G G G U A C U A G G 5′	80	600
pRNA127	5′ C A U A U C C C U C C C A A A A U G 3′ 3′ A U U A G G G U A C U A G G 5′	50	600
pRNA128	5′ C A U A U C C C U C C A C A A A U G 3′ 3′ A U U A G G G U A C U A G G 5′	50	600

Fig. 13

Residue at 516	Percent plasmid-derived 30S in			% CAT
	30S peak	70S peak	Crude ribosomes	
Ψ	46.5 ± 3.6	53.0 ± 4.5	47.8 ± 2.8	100
A	54.2 ± 5.4	10.6 ± 1.4	37.5 ± 3.9	0
C	51.8 ± 0.2	27.1 ± 2.9	42.9 ± 5.8	59.4
G	67.5 ± 6	8.8 ± 0.9	44.1 ± 5.2	6.3

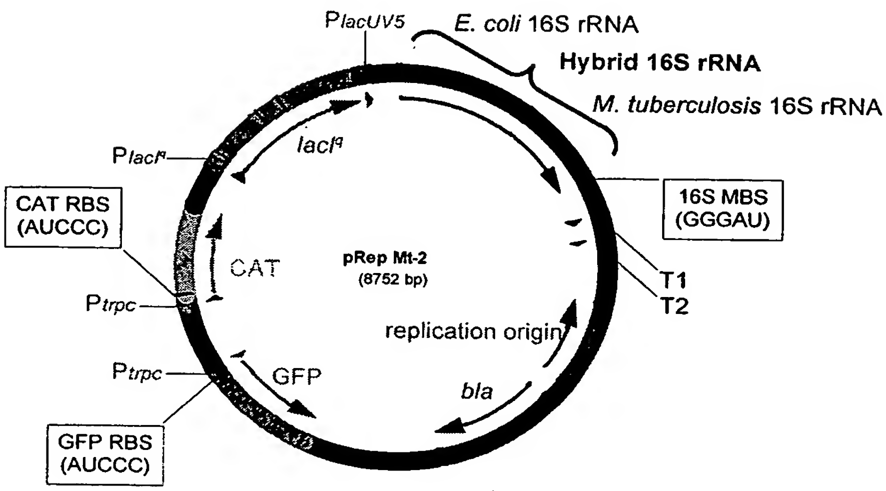
Fig. 14

Clone Random	Alignment of CAT mRNA and 16S rRNA 5' C A R1 R2 R3 R4 R5 C U C G 3' CAT mRNA 3' A U U N5 N4 N3 N2 N1 A C U 5' 16S rRNA	MIC (µg of Cm/mL) no IPTG	 1 mM IPTG	ΔG°_{37} (kcal/mol)
wild-type	5' C A G G A G G C U C G 3' 3' A U U C C U C C A C U 5'	500	500	−9.8
1	5' C A A U C C C C U C G 3' 3' A U U A G G G A A C U 5'	100	400	−8.3
2	5' C A U A C C U C U C G 3' 3' A U U G G G U A A C U 5'	50	100	−4
3	5' C A C A G U C C U C G 3' 3' A U U A G C A G A C U 5'	50	100	−1.9
4	5' C A A A C C A C U C G 3' 3' A U U U A G U G A C U 5'	50	100	−4.1
5	5' C A U A G C C C U C G 3' 3' A U U G G G U U A C U 5'	50	100	−7.6
6	5' C A U C U U C C U C G 3' 3' A U U G G A G G A C U 5'	50	100	−7.4
7	5' C A A U U A U C U C G 3' 3' A U U U U A A G A C U 5'	50	100	−3.1
8	5' C A C A G A A C U C G 3' 3' A U U G A C U A A C U 5'	100	200	−3.6
9	5' C A A A G U U C U C G 3' 3' A U U G A G U A A C U 5'	100	200	−0.6
10	5' C A A U U C A C U C G 3' 3' A U U A A G U G A C U 5'	100	400	−7.7
11	5' C A A C U C A C U C G 3' 3' A U U G U G A G A C U 5'	100	200	−7.1
12	5' C A A C C C A C U C G 3' 3' A U U A G G G U A C U 5'	50	100	−6
13	5' C A U C G U U C U C G 3' 3' A U U G A G A A A C U 5'	50	200	−2.2
14	5' C A C A C C A C U C G 3' 3' A U U U U G G U A C U 5'	50	100	−4.7
15	5' C A C C C A C C U C G 3' 3' A U U G G G A A A C U 5'	50	200	−7
16	5' C A U C C C A C U C G 3' 3' A U U G G G G A A C U 5'	50	100	−7.3
17	5' C A A A C U C C U C G 3' 3' A U U A U C A U A C U 5'	50	100	0.8
18	5' C A U A C A U C U C G 3' 3' A U U U G A G A A C U 5'	50	100	−2.1
19	5' C A A C U C U C U C G 3' 3' A U U A G A G G A C U 5'	50	200	−5.6
20	5' C A A A U A U C U C G 3' 3' A U U U A G A G A C U 5'	200	500	−6.2
21	5' C A U A C C U C U C G 3' 3' A U U G G A G U A C U 5'	200	500	−7.3
22	5' C A U A G U A C U C G 3' 3' A U U U A G G U A C U 5'	100	200	0.3
23	5' C A A U C C A C U C G 3' 3' A U U A G G U G A C U 5'	200	400	−10.6
24	5' C A C A G A U C U C G 3' 3' A U U U U C G G A C U 5'	100	200	−0.2

Fig. 15

Clone Random	Alignment of CAT mRNA and 16S rRNA	MIC (μg of Cm/mL) no IPTG	MIC (μg of Cm/mL) 1 mM IPTG	ΔG°37 (kcal/mol)
	5' C A R1 R2 R3 R4 R5 C U C G 3' CAT mRNA 3' A U U N5 N4 N3 N2 N1 A C U 5' 16S rRNA			
25	5' C A U A G C A C U C G 3' 3' A U U A U C G U A C U 5'	200	400	−6.8
26	5' C A A C U A A C U C G 3' 3' A U U G U G A U A C U 5'	100	200	−3.4
27	5' C A A A U A U C U C G 3' 3' A U U A U G G A A C U 5'	100	400	−5.3
28	5' C A A A U A U C U C G 3' 3' A U U A G A G G A C U 5'	200	400	−1.6
29	5' C A C U C C U C U C G 3' 3' A U U A G G A G A C U 5'	50	100	−9.1
30	5' C A U A U U C C U C G 3' 3' A U U A A G G U A C U 5'	100	400	−5.3
31	5' C A A C C U A C U C G 3' 3' A U U A G A G G A C U 5'	50	200	−3.1
32	5' C A A U C C A C U C G 3' 3' A U U A G A G G A C U 5'	100	400	−4.5
33	5' C A A C C C C U C G 3' 3' A U U G G G A G A C U 5'	100	400	−7.2
34	5' C A A A C A U C U C G 3' 3' A U U G U A G A A C U 5'	200	400	−8
35	5' C A U C C C A C U C G 3' 3' A U U A U G G G A C U 5'	50	200	−5
36	5' C A C U G A U C U C G 3' 3' A U U A G G A G A C U 5'	200	500	−3.9
37	5' C A U A U C C C U C G 3' 3' A U U U A G G G A C U 5'	100	500	−8.4
38	5' C A A A C A C C U C G 3' 3' A U U G G A G A A C U 5'	150	500	−8.1
39	5' C A A C G A A C U C G 3' 3' A U U G U G A G A C U 5'	100	400	−5.7
40	5' C A U C U A U C U C G 3' 3' A U U A G A G G A C U 5'	100	400	−6.2
41	5' C A U A C C U C U C G 3' 3' A U U G G A G U A C U 5'	100	500	−7.3
42	5' C A U A U A A C U C G 3' 3' A U U A G A G A A C U 5'	200	500	−3.6
43	5' C A A A U A C C U C G 3' 3' A U U G G A G U A C U 5'	100	500	−7.7
44	5' C A C A U A C C U C G 3' 3' A U U G G A G U A C U 5'	150	600	−7.7
45	5' C A C C G A C C U C G 3' 3' A U U G G A G A A C U 5'	100	500	−8.5
46	5' C A U A U C C C U C G 3' 3' A U U G G G G U A C U 5'	100	700	−7.3
47	5' C A A C U A C C U C G 3' 3' A U U G G A G U A C U 5'	100	500	−7.7
48	5' C A U A U A C C U C G 3' 3' A U U G G A G A A C U 5'	200	600	−8

Fig. 16



Nucleotide	Description
1-931	part of 16S rRNA from *Escherichia coli* rrnB operon
932-1542	part of 16S rRNA from *Mycobacterium tuberculosis* rrn operon
1536-1540	16S MBS (message binding sequence) GGGAU
1791-1834	terminator T1 of *Escherichia coli* rrnB operon
1965-1994	terminator T2 of *Escherichia coli* rrnB operon
3054-2438	replication origin
3214-4074	*bla* (β-lactamase; ampicillin resistance)
5726-4992	GFP (Green Fluorescent Protein)
5738-5734	GFP RBS (ribosome binding sequence) AUCCC
5795-5755	*trpc* promoter
6270-6310	*trpc* promoter
6327-6331	CAT RBS (ribosome binding sequence) AUCCC
6339-6998	*cam* (chloramphenicol acetyltransferase; CAT)
7307-7384	*lacI^q* promoter
7385-8467	*lacI^q* (lac repressor)
8510-8551	*lacUV5* promoter

Fig. 17

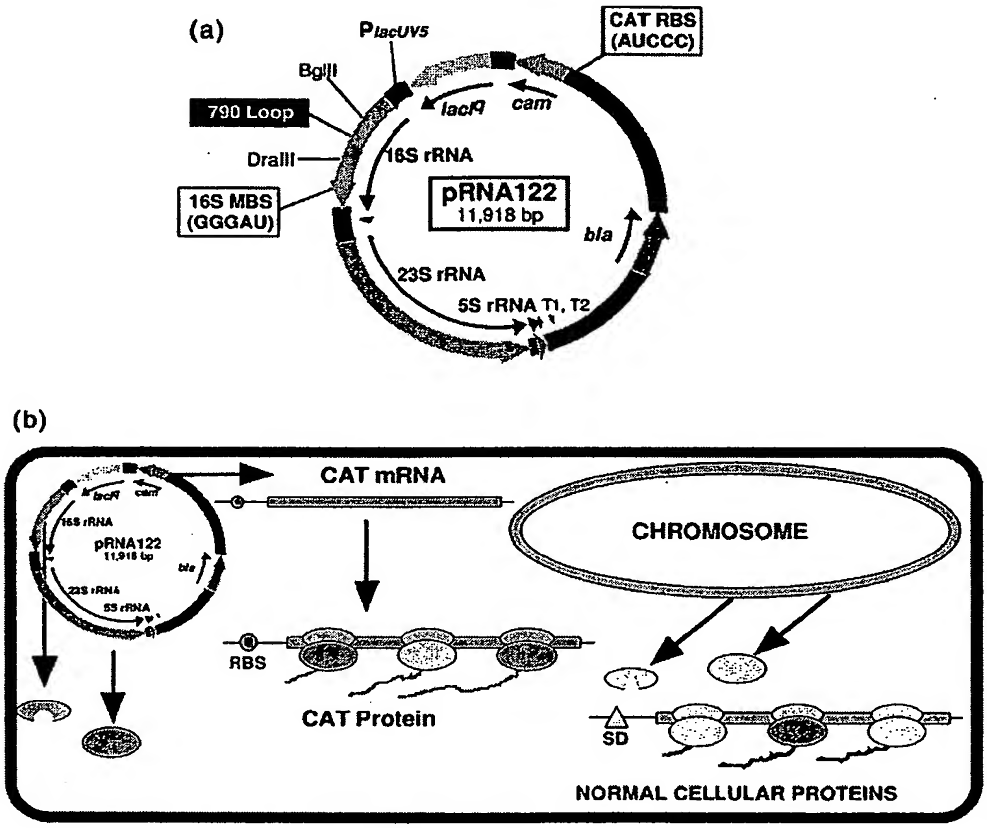

(a)
P lacUV5
CAT RBS
(AUCCC)
BglII
790 Loop
lacIQ
cam
DraIII
16S rRNA
16S MBS
(GGGAU)
pRNA122
11,918 bp
bla
23S rRNA
5S rRNA T1, T2
(b)
CAT mRNA
CHROMOSOME
RBS
CAT Protein
SD
NORMAL CELLULAR PROTEINS

Fig. 18

MIC[a] (μg/ml)	787	788	789	Nucleotide sequence[b] 790	791	792	793	794	795	Number of mutations[c]	Number of occurrences[d]
600[e]	A	U	U	A	G	A	U	A	C	0	WT
550	A	U	U	A	G	G	U	A	A	2	1
500	A	U	U	C	G	A	C	A	U	3	1
500	A	A	U	A	G	G	U	A	C	2	1
500	A	A	U	A	G	U	C	U	C	4	1
450	A	U	U	A	G	C	U	A	C	1	1
450	A	U	U	C	G	A	C	A	C	2	1
450	A	C	U	A	G	C	A	C	A	5	1
450	A	C	U	A	G	C	U	U	C	3	1
450	A	A	U	A	G	A	U	A	C	1	2
450	A	A	U	A	G	U	A	U	C	4	1
450	A	A	U	C	G	C	C	U	C	5	1
450	G	A	U	A	G	G	U	A	U	4	1
400	A	U	U	A	G	G	C	A	C	2	1
400	A	A	U	A	G	G	U	U	C	3	2
400	A	A	U	A	G	U	C	A	A	4	2
400	A	A	U	C	G	U	C	U	C	5	1
350	A	U	U	A	G	A	A	A	A	2	1
350	A	U	U	A	G	C	G	A	C	2	2
350	A	U	U	A	G	G	A	G	C	3	3
350	A	U	U	A	G	G	C	A	A	3	2
350	A	G	U	A	G	C	C	U	C	4	2
350	A	G	U	A	G	C	U	U	C	3	2
350	A	G	U	A	G	G	A	U	C	4	2
350	A	G	U	A	G	G	U	U	C	3	1
350	A	G	U	A	G	U	C	U	C	4	1
350	A	C	U	A	G	A	U	A	U	2	1
350	A	C	U	A	G	A	U	C	C	2	1
350	A	C	U	A	G	C	A	A	C	3	1
350	A	C	U	A	G	C	A	U	C	4	3
350	A	C	U	A	G	C	U	A	A	3	1
350	A	C	U	A	G	G	C	U	C	4	2
350	A	C	U	A	G	U	A	A	C	3	1
350	A	C	U	A	G	U	A	U	C	4	1
350	A	C	U	A	G	U	U	U	C	3	1
350	A	A	U	A	G	A	U	U	C	2	1
350	A	A	U	A	G	C	A	G	C	4	2
350	A	A	U	A	G	C	C	A	A	4	1
350	A	A	U	A	G	C	C	A	C	3	3
350	A	A	U	A	G	C	C	U	A	5	1
350	A	A	U	A	G	C	U	A	A	3	2
350	G	U	U	A	G	U	U	A	U	3	1
350	G	G	U	A	G	U	A	G	U	6	1
350	G	G	U	A	G	U	C	A	G	5	1
350	G	A	U	A	G	U	A	G	U	6	1
300	A	A	U	A	G	A	A	A	C	2	1
300	G	U	U	A	G	A	U	A	G	2	1
300	G	G	U	A	G	C	U	U	U	5	2
300	G	G	U	A	G	U	U	U	G	5	1
250	A	U	U	C	G	G	A	A	A	4	1
250	A	U	U	G	G	A	G	A	C	2	1
250	A	C	U	A	G	A	C	G	C	3	3
250	A	C	U	A	G	C	C	A	A	4	1
250	A	C	U	A	G	G	C	U	A	5	1
250	A	A	U	A	G	C	A	C	A	5	1
250	A	A	U	A	G	U	C	A	U	4	1
250	A	A	U	A	G	U	C	C	A	5	1
250	C	U	U	A	G	U	U	A	A	3	1
250	G	U	U	A	G	A	G	A	U	3	1
250	G	U	U	A	G	U	C	A	U	4	1
250	G	G	U	A	G	C	C	U	U	6	1
250	G	G	U	A	G	G	A	A	U	5	1
250	G	G	U	A	G	G	U	A	G	4	1
250	G	G	U	A	G	G	U	U	U	5	2
250	G	G	U	A	G	U	U	U	U	5	1
250	G	A	U	A	G	C	C	U	U	6	2
250	G	A	U	A	G	U	C	C	U	6	1
200	A	U	U	A	G	A	U	G	A	2	1
200	A	G	U	A	G	C	U	U	U	4	1
200	A	G	U	A	G	U	U	A	G	3	1
200	A	G	U	C	G	C	C	U	C	5	1
200	A	C	U	A	G	A	G	U	C	3	1
200	A	A	U	C	G	C	A	G	C	5	1
200	C	A	U	A	G	U	U	U	U	5	1
200	G	G	U	A	G	A	U	G	U	4	1
200	G	G	U	A	G	U	C	G	U	6	1
200	G	G	U	C	G	C	U	A	U	5	1
200	G	C	U	A	G	U	A	A	G	5	1
150	G	G	U	A	G	G	U	U	G	5	1

Fig. 19

Nucleotide	787	788	789	790	791	792	793	794	795
A. *Nucleotide distribution of functional mutants*[a]									
A	54	24	0	69	0	15	18	35	16
C	2	16	0	8	0	24	26	5	34
G	22	21	0	1	78	16	4	9	7
U	0	17	78	0	0	23	30	29	21
Consensus	R	N	U	M	G	N	H	W	H
B. *Nucleotide distribution in all known bacteria*[b]									
A	573	0	0	578	1	578	0	577	0
C	3	0	0	0	1	0	0	1	578
G	1	0	0	0	576	0	3	0	0
U	1	578	578	0	0	0	575	0	0
Consensus	A	U	U	A	G	A	U	A	C
C. *Nucleotide distribution in all known organisms*[c]									
A	1657	2	1	1648	2	1655	5	1664	1
C	6	1	566	9	1	1	12	1	1665
G	4	0	0	3	1662	7	46	2	0
U	1	1664	1101	7	3	3	1605	1	0
Δ	0	1	0	1	0	2	0	0	2
Consensus	A	U	Y	A	G	A	U	A	C

Fig. 20

Nucleotide[a] 787	795	Mean CAT activity[b]	% Mutant 30 S in 30 S peak[c]	70 S peak[c]	Thermodynamics[d] ΔG°_{37} (kcal/mol)	T_m (°C)
A	C	100	46.1 ± 0.8	41.7 ± 3.3	−3.25	61.8
A	A	83.8 ± 2.5	n.d.	n.d.	−2.90	61.3
C	C	80.5 ± 0.5	n.d.	n.d.	−2.84	60.7
C	U	74.1 ± 3.4	n.d.	n.d.	n.d.	n.d.
A	U	72.1 ± 4.5	74.3 ± 0.5	14.3 ± 1.0	−5.62	75.3
U	U	72.0 ± 2.4	n.d.	n.d.	n.d.	n.d.
G	U	70.5 ± 1.8	56.1 ± 1.4	14.2 ± 0.6	−4.96	68.1
U	C	65.5 ± 2.1	n.d.	n.d.	−2.88	60.6
C	A	53.4 ± 1.0	n.d.	n.d.	n.d.	n.d.
G	G	52.9 ± 0.4	n.d.	n.d.	−3.70	64.9
G	A	46.0 ± 1.4	n.d.	n.d.	n.d.	n.d.
A	G	37.5 ± 0.5	n.d.	n.d.	−3.19	63.5
U	A	36.7 ± 0.4	70.8 ± 7.4	10.1 ± 0.4	−5.82	74.3
U	G	13.5 ± 3.3	57.7 ± 12.1	5.5 ± 3.4	−5.15	69.4
G	C	5.5 ± 1.8	58.3 ± 8.2	5.1 ± 1.3	−7.61	83.4
C	G	1.2 ± 0.1	n.d.	n.d.	n.d.	n.d.

Fig. 21

GACGCCGGGCAAGAGCAACTCGGTCGCCGCATACACTATTCTCAGAATGACT
TGGTTGAGTACTCACCAGTCACAGAAAAGCATCTTACGGATGGCATGACAGT
AAGAGAATTATGCAGTGCTGCCATAACCATGAGTGATAACACTGCGGCCAAC
TTACTTCTGACAACGATCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCACA
ACATGGGGGATCATGTAACTCGCCTTGATCGTTGGGAACCGGAGCTGAATGA
AGCCATACCAAACGACGAGCGTGACACCACGATGCCTGCAGCAATGGCAAC
AACGTTGCGCAAACTATTAACTGGCGAACTACTTACTCTAGCTTCCCGGCAA
CAATTAATAGACTGGATGGAGGCGGATAAAGTTGCAGGACCACTTCTGCGCT
CGGCCCTTCCGGCTGGCTGGTTTATTGCTGATAAATCTGGAGCCGGTGAGCG
TGGGTCTCGCGGTATCATTGCAGCACTGGGGCCAGATGGTAAGCCCTCCCGT
ATCGTAGTTATCTACACGACGGGGAGTCAGGCAACTATGGATGAACGAAAT
AGACAGATCGCTGAGATAGGTGCCTCACTGATTAAGCATTGGTAACTGTCAG
ACCAAGTTTACTCATATATACTTTAGATTGATTTAAAACTTCATTTTTAATTT
AAAAGGATCTAGGTGAAGATCCTTTTTGATAATCTCATGACCAAAATCCCTT
AACGTGAGTTTTCGTTCCACTGAGCGTCAGACCCCTTAATAAGATGATCTTCT
TGAGATCGTTTTGGTCTGCGCGTAATCTCTTGCTCTGAAAACGAAAAAACCG
CCTTGCAGGGCGGTTTTTCGAAGGTTCTCTGAGCTACCAACTCTTTGAACCGA
GGTAACTGGCTTGGAGGAGCGCAGTCACCAAAACTTGTCCTTTCAGTTTAGC
CTTAACCGGCGCATGACTTCAAGACTAACTCCTCTAAATCAATTACCAGTGG
CTGCTGCCAGTGGTGCTTTTGCATGTCTTTCCGGGTTGGACTCAAGACGATAG
TTACCGGATAAGGCGCAGCGGTCGGACTGAACGGGGGGTTCGTGCATACAG
TCCAGCTTGGAGCGAACTGCCTACCCGGAACTGAGTGTCAGGCGTGGAATGA
GACAAACGCGGCCATAACAGCGGAATGACACCGGTAAACCGAAAGGCAGGA
ACAGGAGAGCGCACGAGGGAGCCGCCAGGGGGAAACGCCTGGTATCTTTAT
AGTCCTGTCGGGTTTCGCCACCACTGATTTGAGCGTCAGATTTCGTGATGCTT
GTCAGGGGGGCGGAGCCTATGGAAAAACGGCTTTGCCGCGGCCCTCTCACTT
CCCTGTTAAGTATCTTCCTGGCATCTTCCAGGAAATCTCCGCCCCGTTCGTAA
GCCATTTCCGCTCGCCGCAGTCGAACGACCGAGCGTAGCGAGTCAGTGAGCG
AGGAAGCGGAATATATCCTGTATCACATATTCTGCTGACGCACCGGTGCAGC
CTTTTTTCTCCTGCCACATGAAGCACTTCACTGACACCCTCATCAGTGCCAAC
ATAGTAAGCCAGTATACACTCCGCTAGCATCGTCCATTCCGACAGCATCGCC
AGTCACTATGGCGTGCTGCTAGCGCTATATGCGTTGATGCAATTTCTATGCGC
ACCCGTTCTCGGAGCACTGTCCGACCGCTTTGGCCGCCGCCCAGTCCTGCTCG
CTTCGCTACTTGGAGCCACTATCGACTACGCGATCATGGCGACCACACCCGT
CCTGTGGATCCTCTACGCCGGACGCATCGTGGCCGGCCACGATGCGTCCGGC
GTAGAGGATCTATTTAACGACCCTGCCCTGAACCGACGACCGGGTCGAATTT
GCTTTCGAATTTCTGCCATTCATCCGCTTATTATCACTTATTCAGGCGTAGCA
CCAGGCGTTTAAGGGCACCAATAACTGCCTTAAAAAAATTACGCCCCGCCCT
GCCACTCATCGCAGTACTGTTGTAATTCATTAAGCATTCTGCCGACATGGAA
GCCATCACAGACGGCATGATGAACCTGAATCGCCAGCGGCATCAGCACCTTG
TCGCCTTGCGTATAATATTTGCCCATGGTGAAAACGGGGGCGAAGAAGTTGT
CCATATTGGCCACGTTTAAATCAAAACTGGTGAAACTCACCCAGGGATTGGC
TGAGACGAAAAACATATTCTCAATAAACCCTTTAGGGAAATAGGCCAGGTTT
TCACCGTAACACGCCACATCTTGCGAATATATGTGTAGAAACTGCCGGAAAT
CGTCGTGGTATTCACTCCAGAGCGATGAAAACGTTTCAGTTTGCTCATGGAA

Fig. 22

AACGGTGTAACAAGGGTGAACACTATCCCATATCACCAGCTCACCGTCTTTC
ATTGCCATACGGAATTCCGGATGAGCATTCATCAGGCGGGCAAGAATGTGAA
TAAAGGCCGGATAAAACTTGTGCTTATTTTTCTTTACGGTCTTTAAAAAGGCC
GTAATATCCAGCTGAACGGTCTGGTTATAGGTACATTGAGCAACTGACTGAA
ATGCCTCAAAATGTTCTTTACGATGCCATTGGGATATATCAACGGTGGTATAT
CCAGTGATTTTTTTCTCCATTTCTCGAGCACACTGAAAGCGGCCGCTTCCACA
CATTAAACTAGTTCGATGATTAATTGTCAACAGCTCGCCGCTATATGCGTTGA
TGCAATTTCTATGCGCACCCGTTCTCGGAGCACTGTCCGACCGCTTTGGCCGC
CGCCCAGTCCTGCTCGCTTCGCTACTTGGAGCCACTATCGACTACGCGATCAT
GGCGACCACACCCGTCCTGTGGATCCCAGACGAGTTAAGTCACCATACGTTA
GTACAGGTTGCCACTCTTTTGGCAGACGCAGACCTACGGCTACAATAGCGAA
GCGGTCCTGGTATTCATGTTTAAAAATACTGTCGCGATAGCCAAAACGGCAC
TCTTTGGCAGTTAAGCGCACTTGCTTGCCTGTCGCCAGTTCAACAGAATCAAC
ATAAGCGCAAACTCGCTGTAATTCTACGCCATAAGCACCAATATTCTGGATA
GGTGATGAGCCGACACAACCAGGAATTAATGCCAGATTTTCCAGACCAGGC
ATACCTTCCTGCAAAGTGTATTTTACCAGACGATGCCAGTTTTCTCCGGCTCC
TACATGTAAATACCACGCATCAGGTTCATCATGAATTTCGATACCTTTGATCC
GGTTGATGATCACCGTGCCGCGATAGTCCTCCAGAAAAAGTACATTACTTCC
TTCACCCAGAATAAGAACGGGTTGTCCTTCTGCGGTTGCATACTGCCAGGCA
TTGAGTAATTGTTGTTCGTCTTCGGCACATACAATGTGCTGAGCATTATGATC
AATGCCAAATGTGTTCCAGGGTTTTAAGGAGTGGTTCATAGCTGCTTTCCTGA
TGCAAAAACGAGGCTAGTTTACCGTATCTGTGGGGGGATGGCTTGTAGATAT
GACGACAGGAAGAGTTTGTAGAAACGCAAAAAGGCCATCCGTCAGGATGGC
CTTCTGCTTAATTTGATGCCTGGCAGTTTATGGCGGGCGTCCTGCCCGCCACC
CTCCGGGCCGTTGCTTCGCAACGTTCAAATCCGCTCCCGGCGGATTTGTCCTA
CTCAGGAGAGCGTTCACCGACAAACAACAGATAAAACGAAAGGCCCAGTCT
TTCGACTGAGCCTTTCGTTTTATTTGATGCCTGGCAGTTCCCTACTCTCGCAT
GGGGAGACCCCACACTACCATCGGCGCTACGGCGTTTCACTTCTGAGTTCGG
CATGGGGTCAGGTGGGACCACCGCGCTACTGCCGCCAGGCAAATTCTGTTTT
ATCAGACCGCTTCTGCGTTCTGATTTAATCTGTATCAGGCTGAAAATCTTCTC
TCATCCGCCAAAACAGCTTCGGCGTTGTAAGGTTAAGCCTCACGGTTCATTA
GTACCGGTTAGCTCAACGCATCGCTGCGCTTACACACCCGGCCTATCAACGT
CGTCGTCTTCAACGTTCCTTCAGGACCCTTAAAGGGTCAGGGAGAACTCATC
TCGGGGCAAGTTTCGTGCTTAGATGCTTTCAGCACTTATCTCTTCCGCATTTA
GCTACCGGGCAGTGCCATTGGCATGACAACCCGAACACCAGTGATGCGTCCA
CTCCGGTCCTCTCGTACTAGGAGCAGCCCCCCTCAGTTCTCCAGCGCCCACG
GCAGATAGGGACCGAACTGTCTCACGACGTTCTAAACCCAGCTCGCGTACCA
CTTTAAATGGCGAACAGCCATACCCTTGGGACCTACTTCAGCCCCAGGATGT
GATGAGCCGACATCGAGGTGCCAAACACCGCCGTCGATATGAACTCTTGGGC
GGTATCAGCCTGTTATCCCCGGAGTACCTTTTATCCGTTGAGCGATGGCCCTT
CCATTCAGAACCACCGGATCACTATGACCTGCTTTCGCACCTGCTCGCGCCGT
CACGCTCGCAGTCAAGCTGGCTTATGCCATTGCACTAACCTCCTGATGTCCG
ACCAGGATTAGCCAACCTTCGTGCTCCTCCGTTACTCTTTAGGAGGAGACCG
CCCCAGTCAAACTACCCACCAGACACTGTCCGCAACCCGGATTACGGGTCAA
CGTTAGAACATCAAACATTAAAGGGTGGTATTTCAAGGTCGGCTCCATGCAG

Fig. 22
Cont.

ACTGGCGTCCACACTTCAAAGCCTCCCACCTATCCTACACATCAAGGCTCAA
TGTTCAGTGTCAAGCTATAGTAAAGGTTCACGGGGTCTTTCCGTCTTGCCGCG
GGTACACTGCATCTTCACAGCGAGTTCAATTTCACTGAGTCTCGGGTGGAGA
CAGCCTGGCCATCATTACGCCATTCGTGCAGGTCGGAACTTACCCGACAAGG
AATTTCGCTACCTTAGGACCGTTATAGTTACGGCCGCCGTTTACCGGGGCTTC
GATCAAGAGCTTCGCTTGCGCTAACCCCATCAATTAACCTTCCGGCACCGGG
CAGGCGTCACACCGTATACGTCCACTTTCGTGTTTGCACAGTGCTGTGTTTTT
AATAAACAGTTGCAGCCAGCTGGTATCTTCGACTGATTTCAGCTCCATCCGC
GAGGGACCTCACCTACATATCAGCGTGCCTTCTCCCGAAGTTACGGCACCAT
TTTGCCTAGTTCCTTCACCCGAGTTCTCTCAAGCGCCTTGGTATTCTCTACCTG
ACCACCTGTGTCGGTTTGGGGTACGATTTGATGTTACCTGATGCTTAGAGGCT
TTTCCTGGAAGCAGGGCATTTGTTGCTTCAGCACCGTAGTGCCTCGTCATCAC
GCCTCAGCCTTGATTTTCCGGATTTGCCTGGAAAACCAGCCTACACGCTTAA
ACCGGGACAACCGTCGCCCGGCCAACATAGCCTTCTCCGTCCCCCCTTCGCA
GTAACACCAAGTACAGGAATATTAACCTGTTTCCCATCGACTACGCCTTTCG
GCCTCGCCTTAGGGGTCGACTCACCCTGCCCCGATTAACGTTGGACAGGAAC
CCTTGGTCTTCCGGCGAGCGGGCTTTTCACCCGCTTTATCGTTACTTATGTCA
GCATTCGCACTTCTGATACCTCCAGCATGCCTCACAGCACACCTTCGCAGGCT
TACAGAACGCTCCCCTACCCAACAACGCATAAGCGTCGCTGCCGCAGCTTCG
GTGCATGGTTTAGCCCCGTTACATCTTCCGCGCAGGCCGACTCGACCAGTGA
GCTATTACGCTTTCTTTAAATGATGGCTGCTTCTAAGCCAACATCCTGGCTGT
CTGGGCCTTCCCACATCGTTTCCCACTTAACCATGACTTTGGGACCTTAGCTG
GCGGTCTGGGTTGTTTCCCTCTTCACGACGGACGTTAGCACCCGCCGTGTGTC
TCCCGTGATAACATTCTCCGGTATTCGCAGTTTGCATCGGGTTGGTAAGTCGG
GATGACCCCCTTGCCGAAACAGTGCTCTACCCCCGGAGATGAATTCACGAGG
CGCTACCTAAATAGCTTTCGGGGAGAACCAGCTATCTCCCGGTTTGATTGGC
CTTTCACCCCCAGCCACAAGTCATCCGCTAATTTTTCAACATTAGTCGGTTCG
GTCCTCCAGTTAGTGTTACCCAACCTTCAACCTGCCCATGGCTAGATCACCGG
GTTTCGGGTCTATACCCTGCAACTTAACGCCCAGTTAAGACTCGGTTTCCCTT
CGGCTCCCCTATTCGGTTAACCTTGCTACAGAATATAAGTCGCTGACCCATTA
TACAAAAGGTACGCAGTCACACGCCTAAGCGTGCTCCCACTGCTTGTACGTA
CACGGTTTCAGGTTCTTTTTCACTCCCCTCGCCGGGGTTCTTTTCGCCTTTCCC
TCACGGTACTGGTTCACTATCGGTCAGTCAGGAGTATTTAGCCTTGGAGGAT
GGTCCCCCCATATTCAGACAGGATACCACGTGTCCCGCCCTACTCATCGAGC
TCACAGCATGTGCATTTTTGTGTACGGGGCTGTCACCCTGTATCGCGCGCCTT
TCCAGACGCTTCCACTAACACACACACTGATTCAGGCTCTGGGCTGCTCCCC
GTTCGCTCGCCGCTACTGGGGGAATCTCGGTTGATTTCTTTTCCTCGGGGTAC
TTAGATGTTTCAGTTCCCCCGGTTCGCCTCATTAACCTATGGATTCAGTTAAT
GATAGTGTGTCGAAACACACTGGGTTTCCCCATTCGGAAATCGCCGGTTATA
ACGGTTCATATCACCTTACCGACGCTTATCGCAGATTAGCACGTCCTTCATCG
CCTCTGACTGCCAGGGCATCCACCGTGTACGCTTAGTCGCTTAACCTCACAA
CCCGAAGATGTTTCTTTCGATTCATCATCGTGTTGCGAAAATTTGAGAGACTC
ACGAACAACTCTCGTTGTTCAGTGTTTCAATTTTCAGCTTGATCCAGATTTTT
AAAGAGCAAAAATCTCAAACATCACCCGAAGATGAGTTTTGAGATATTAAG
GTCGGCGACTTTCACTCACAAACCAGCAAGTGGCGTCCCCTAGGGGATTCGA

Fig. 22
Cont.

ACCCCTGTTACCGCCGTGAAAGGGCGGTGTCCTGGGCCTCTAGACGAAGGGG
ACACGAAAATTGCTTATCACGCGTTGCGTGATATTTTCGTGTAGGGTGAGCTT
TCATTAATAGAAAGCGAACGGCCTTATTCTCTTCAGCCTCACTCCCAACGCGT
AAACGCCTTGCTTTTCACTTTCTATCAGACAATCTGTGTGAGCACTACAAAGT
ACGCTTCTTTAAGGTAAGTGTGTGATCCAACCGCAGGTTCCCCTACGGTTACC
TTGTTACGACTTCACCCCAGTCATGAATCACAAAGTGGTAAGCGCCCTCCCG
AAGGTTAAGCTACCTACTTCTTTTGCAACCCACTCCCATGGTGTGACGGGCG
GTGTGTACAAGGCCCGGGAACGTATTCACCGTGGCATTCTGATCCACGATTA
CTAGCGATTCCGACTTCATGGAGTCGAGTTGCAGACTCCAATCCGGACTACG
ACGCACTTTATGAGGTCCGCTTGCTCTCGCGAGGTCGCTTCTCTTTGTATGCG
CCATTGTAGCACGTGTGTAGCCCTGGTCGTAAGGGCCATGATGACTTGACGT
CATCCCCACCTTCCTCCAGTTTATCACTGGCAGTCTCCTTTGAGTTCCCGGCC
GGACCGCTGGCAACAAAGGATAAGGGTTGCGCTCGTTGCGGGACTTAACCC
AACATTTCACAACACGAGCTGACGACAGCCATGCAGCACCTGTCTCACGGTT
CCCGAAGGCACATTCTCATCTCTGAAAACTTCCGTGGATGTCAAGACCAGGT
AAGGTTCTTCGCGTTGCATCGAATTAAACCACATGCTCCACCGCTTGTGCGG
GCCCCCGTCAATTCATTTGAGTTTTAACCTTGCGGCCGTACTCCCCAGGCGGT
CGACTTAACGCGTTAGCTCCGGAAGCCACGCCTCAAGGGCACAACCTCCAAG
TCGACATCGTTTACGGCGTGGACTACCAGGGTATCTAATCCTGTTTGCTCCCC
ACGCTTTCGCACCTGAGCGTCAGTCTTCGTCCAGGGGGCCGCCTTCGCCACC
GGTATTCCTCCAGATCTCTACGCATTTCACCGCTACACCTGGAATTCTACCCC
CCTCTACGAGACTCAAGCTTGCCAGTATCAGATGCAGTTCCCAGGTTGAGCC
CGGGGATTTCACATCTGACTTAACAAACCGCCTGCGTGCGCTTTACGCCCAG
TAATTCCGATTAACGCTTGCACCCTCCGTATTACCGCGGCTGCTGGCACGGA
GTTAGCCGGTGCTTCTTCTGCGGGTAACGTCAATGAGCAAAGGTATTAACTT
TACTCCCTTCCTCCCCGCTGAAAGTACTTTACAACCCGAAGGCCTTCTTCATA
CACGCGGCATGGCTGCATCAGGCTTGCGCCCATTGTGCAATATTCCCCACTG
CTGCCTCCCGTAGGAGTCTGGACCGTGTCTCAGTTCCAGTGTGGCTGGTCATC
CTCTCAGACCAGCTAGGGATCGTCGCCTAGGTGAGCCGTTACCCCACCTACT
AGCTAATCCCATCTGGGCACATCCGATGGCAAGAGGCCCGAAGGTCCCCCTC
TTTGGTCTTGCGACGTTATGCGGTATTAGCTACCGTTTCCAGTAGTTATCCCC
CTCCATCAGGCAGTTTCCCAGACATTACTCACCCGTCCGCCACTCGTCAGCA
AAGAAGCAAGCTTCTTCCTGTTACCGTTCGACTTGCATGTGTTAGGCCTGCCG
CCAGCGTTCAATCTGAGCCATGATCAAACTCTTCAATTTAAAAGTTTGACGCT
CAAAGAATTAAACTTCGTAATGAATTACGTGTTCACTCTTGAGACTTGGTATT
CATTTTTCGTCTTGCGACGTTAAGAATCCGTATCTTCGAGTGCCCACACAGAT
TGTCTGATAAATTGTTAAAGAGCAGTGCCGCTTCGCTTTTTCTCAGCGGCCGC
TGTGTGAAATTGTTATCCGCTCACAATTCCACACATTATACGAGCCGGAAGC
ATAAAGTGTAAAGCCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATTG
CGTTGCGCTCACTGCCCGCTTTCCAGTCGGGAAACCTGTCGTGCCAGCTGCAT
TAATGAATCGGCCAACGCGCGGGGAGAGGCGGTTTGCGTATTGGGCGCCAG
GGTGGTTTTTCTTTTCACCAGTGAGACGGGCAACAGCTGATTGCCCTTCACCG
CCTGGCCCTGAGAGAGTTGCAGCAAGCGGTCCACGCTGGTTTGCCCCAGCAG
GCGAAAATCCTGTTTGATGGTGGTTGACGGCGGGATATAACATGAGCTGTCT
TCGGTATCGTCGTATCCCACTACCGAGATATCCGCACCAACGCGCAGCCCGG

Fig. 22

Cont.

ACTCGGTAATGGCGCGCATTGCGCCCAGCGCCATCTGATCGTTGGCAACCAG
CATCGCAGTGGGAACGATGCCCTCATTCAGCATTTGCATGGTTTGTTGAAAA
CCGGACATGGCACTCCAGTCGCCTTCCCGTTCCGCTATCGGCTGAATTTGATT
GCGAGTGAGATATTTATGCCAGCCAGCCAGACGCAGACGCGCCGAGACAGA
ACTTAATGGGCCCGCTAACAGCGCGATTTGCTGGTGACCCAATGCGACCAGA
TGCTCCACGCCCAGTCGCGTACCGTCTTCATGGGAGAAAATAATACTGTTGA
TGGGTGTCTGGTCAGAGACATCAAGAAATAACGCCGGAACATTAGTGCAGG
CAGCTTCCACAGCAATGGCATCCTGGTCATCCAGCGGATAGTTAATGATCAG
CCCACTGACCCGTTGCGCGAGAAGATTGTGCACCGCCGCTTTACAGGCTTCG
ACGCCGCTTCGTTCTACCATCGACACCACCACGCTGGCACCCAGTTGATCGG
CGCGAGATTTAATCGCCGCGACAATTTGCGACGGCGCGTGCAGGGCCAGACT
GGAGGTGGCAACGCCAATCAGCAACGACTGTTTGCCCGCCAGTTGTTGTGCC
ACGCGGTTGGGAATGTAATTCAGCTCCGCCATCGCCGCTTCCACTTTTTCCCG
CGTTTTCGCAGAAACGTGGCTGGCCTGGTTCACCACGCGGGAAACGGTCTGA
TAAGAGACACCGGCATACTCTGCGACATCGTATAACGTTACTGGTTTCACAT
TCACCACCCTGAATTGACTCTCTTCCGGGCGCTATCATGCCATACCGCGAAA
GGTTTTGCACCATTCGATGGTGTCGGATCCTAGAGCGCACGAATGAGGGCCG
ACAGGAAGCAAAGCTGAAAGGAATCAAATTTGGCCGCAGGCGTACCGTGGA
CAGGAACGTCGTGCTGACGCTTCATCAGAAGGGCACTGGTGCAACGGAAATT
GCTCATCAGCTCAGTATTGCCCGCTCCACGGTTTATAAAATTCTTGAAGACG
AAAGGGCCTCGTGCATACGCCTATTTTTATAGGTTAATGTCATGATAATAAT
GGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCT
ATTTGTTTATTTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATA
ACCCTGATAAATGCTTCAATAATATTGAAAAAGGAAGAGTATGAGTATTCAA
CATTTCCGTGTCGCCCTTATTCCCTTTTTTGCGGCATTTTGCCTTCCTGTTTTT
GCTCACCCAGAAACGCTGGTGAAAGTAAAAGATGCTGAAGATCAGTTGGGT
GCACGAGTGGGTTACATCGAACTGGATCTCAACAGCGGTAAGATCCTTGAGA
GTTTTCGCCCCGAAGAACGTTTTCCAATGATGAGCACTTTTAAAGTTCTGCTA
TGTGGCGCGGTATTATCCCGTGTT

Fig. 22
Cont.

GATCCTCTACGCCGGACGCATCGTGGCCGGCCACGATGCGTCCGGCGTAGAG
GATCTATTTAACGACCCTGCCCTGAACCGACGACCGGGTCGAATTTGCTTTC
GAATTTCTGCCATTCATCCGCTTATTATCACTTATTCAGGCGTAGCACCAGGC
GTTTAAGGGCACCAATAACTGCCTTAAAAAAATTACGCCCCGCCCTGCCACT
CATCGCAGTACTGTTGTAATTCATTAAGCATTCTGCCGACATGGAAGCCATC
ACAGACGGCATGATGAACCTGAATCGCCAGCGGCATCAGCACCTTGTCGCCT
TGCGTATAATATTTGCCCATGGTGAAAACGGGGGCGAAGAAGTTGTCCATAT
TGGCCACGTTTAAATCAAAACTGGTGAAACTCACCCAGGGATTGGCTGAGAC
GAAAAACATATTCTCAATAAACCCTTTAGGGAAATAGGCCAGGTTTTCACCG
TAACACGCCACATCTTGCGAATATATGTGTAGAAACTGCCGGAAATCGTCGT
GGTATTCACTCCAGAGCGATGAAAACGTTTCAGTTTGCTCATGGAAAACGGT
GTAACAAGGGTGAACACTATCCCATATCACCAGCTCACCGTCTTTCATTGCC
ATACGGAATTCCGGATGAGCATTCATCAGGCGGGCAAGAATGTGAATAAAG
GCCGGATAAAACTTGTGCTTATTTTTCTTTACGGTCTTTAAAAAGGCCGTAAT
ATCCAGCTGAACGGTCTGGTTATAGGTACATTGAGCAACTGACTGAAATGCC
TCAAAATGTTCTTTACGATGCCATTGGGATATATCAACGGTGGTATATCCAGT
GATTTTTTTCTCCATTTGCGGAGGGATATGAAAGCGGCCGCTTCCACACATTA
AACTAGTTCGATGATTAATTGTCAACAGCTCGCCGGCGGCACCTCGCTAACG
GATTCACCACTCCAAGAATTGGAGCCAATCGATTCTTGCGGAGAACTGTGAA
TGCGCAAACCAACCCTTGGCAGAACATATCCATCGCGTCCGCCATCTCCAGC
AGCCGCACGCGGCGCATCTCGGGCAGCGTTGGGTCCTGGCCACGGGTGCGCA
TGATCGTGCTCCTGTCGTTGAGGACCCGGCTAGGCTGGCGGGGTTGCCTTAC
TGGTTAGCAGAATGAATCACCGATACGCGAGCGAACGTGAAGCGACTGCTG
CTGCAAAACGTCTGCGACCTGAGCAACAACATGAATGGTCTTCGGTTTCCGT
GTTTCGTAAAGTCTGGAAACGCGGAAGTCAGCGCCCTGCACCATTATGTTCC
GGATCTGGGTACCGAGCTCGAATTCACTGGCCGTCGTTTTACAACGTCGTGA
CTGGGAAAACCCTGGCGTTACCCAACTTAATCGCCTTGCAGCACATCCCCCT
TTCGCCAGGCATCGCAGGATGCTGCTGGCTACCCTGTGGAACACCTACATCT
GTATTAACGAAGCGCTGGCATTGACCCTGAGTGATTTTTCTCTGGTCCCGCCG
CATCCATACCGCCAGTTGTTTACCCTCACAACGTTCCAGTAACCGGGCATGTT
CATCATCAGTAACCCGTATCGTGAGCATCCTCTCTCGTTTCATCGGTATCATT
ACCCCCATGAACAGAAATTCCCCCTTACACGGAGGCATCAAGTGACCAAACA
GGAAAAAACCGCCCTTAACATGGCCCGCTTTATCAGAAGCCAGACATTAACG
CTTCTGGAGAAACTCAACGAGCTGGACGCGGATGAACAGGCAGACATCTGT
GAATCGCTTCACGACCACGCTGATGAGCTTTACCGCAGCTGCCTCGCGCGTT
TCGGTGATGACGGTGAAAACCTCTGACACATGCAGCTCCCGGAGACGGTCAC
AGCTTGTCTGTAAGCGGATGCCGGGAGCAGACAAGCCCGTCAGGGCGCGTC
AGCGGGTGTTGGCGGGTGTCGGGGCGCAGCCATGACCCAGTCACGTAGCGA
TAGCGGAGTGTATACTGGCTTAACTATGCGGCATCAGAGCAGATTGTACTGA
GAGTGCACCATATGCGGTGTGAAATACCGCACAGATGCGTAAGGAGAAAAT
ACCGCATCAGGCGCTCTTCCGCTTCCTCGCTCACTGACTCGCTGCGCTCGGTC
GTTCGGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCGGTAATACGGTTAT
CCACAGAATCAGGGGATAACGCAGGAAAGAACATGTGAGCAAAAGGCCAGC
AAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCT
CCGCCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCG
AAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTC

Fig. 23

GTGCGCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCCTTTCT
CCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTT
CGGTGTAGGTCGTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGTTCA
GCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTA
AGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGA
GCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACG
GCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTAC
CTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGT
AGCGGTGGTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAAGGAT
CTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGA
AAACTCACGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTCACC
TAGATCCTTTTAAATTAAAAATGAAGTTTTAAATCAATCTAAAGTATATATG
AGTAAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCACCTATCTC
AGCGATCTGTCTATTTCGTTCATCCATAGTTGCCTGACTCCCCGTCGTGTAGA
TAACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATACC
GCGAGACCCACGCTCACCGGCTCCAGATTTATCAGCAATAAACCAGCCAGCC
GGAAGGGCCGAGCGCAGAAGTGGTCCTGCAACTTTATCCGCCTCCATCCAGT
CTATTAATTGTTGCCGGGAAGCTAGAGTAAGTAGTTCGCCAGTTAATAGTTT
GCGCAACGTTGTTGCCATTGCTGCAGGCATCGTGGTGTCACGCTCGTCGTTTG
GTATGGCTTCATTCAGCTCCGGTTCCCAACGATCAAGGCGAGTTACATGATC
CCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGTCCTCCGATCGTTGTCA
GAAGTAAGTTGGCCGCAGTGTTATCACTCATGGTTATGGCAGCACTGCATAA
TTCTCTTACTGTCATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGAGTACT
CAACCAAGTCATTCTGAGAATAGTGTATGCGGCGACCGAGTTGCTCTTGCCC
GGCGTCAACACGGGATAATACCGCGCCACATAGCAGAACTTTAAAAGTGCTC
ATCATTGGAAAACGTTCTTCGGGGCGAAAACTCTCAAGGATCTTACCGCTGT
TGAGATCCAGTTCGATGTAACCCACTCGTGCACCCAACTGATCTTCAGCATCT
TTTACTTTCACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCG
CAAAAAAGGGAATAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCCT
TTTTCAATATTATTGAAGCATTTATCAGGGTTATTGTCTCATGAGCGGATACA
TATTTGAATGTATTTAGAAAAATAAACAAATAGGGGTTCCGCGCACATTTCC
CCGAAAAGTGCCACCTGACGTCTAAGAAACCATTATTATCATGACATTAACC
TATAAAAATAGGCGTATCACGAGGCCCTTTCGTCTTCAAGAATTCTCATGTTT
GACAGCTTATCATCGATAAGCTTTAATGCGGTAGTTTATCACAGTTAAATTGC
TAACGCAGTCAGGCACCGTGTATGAAATCTAACAATGCGCTCATCGTCATCC
TCGGCACCGTCACCCTGGATGCTGTAGGCATAGGCTTGGTTATGCCGGTACT
GCCGGGCCTCTTGCGGGATATCGTCCATTCCGACAGCATCGCCAGTCACTAT
GGCGTGCTGCTAGCGCTATATGCGTTGATGCAATTTCTATGCGCACCCGTTCT
CGGAGCACTGTCCGACCGCTTTGGCCGCCGCCCAGTCCTGCTCGCTTCGCTAC
TTGGAGCCACTATCGACTACGCGATCATGGCGACCACACCCGTCCTGTGGAT
CCCAGACGAGTTAAGTCACCATACGTTAGTACAGGTTGCCACTCTTTTGGCA
GACGCAGACCTACGGCTACAATAGCGAAGCGGTCCTGGTATTCATGTTTAAA
AATACTGTCGCGATAGCCAAAACGGCACTCTTTGGCAGTTAAGCGCACTTGC
TTGCCTGTCGCCAGTTCAACAGAATCAACATAAGCGCAAACTCGCTGTAATT
CTACGCCATAAGCACCAATATTCTGGATAGGTGATGAGCCGACACAACCAGG
AATTAATGCCAGATTTTCCAGACCAGGCATACCTTCCTGCAAAGTGTATTTA

Fig. 23

Cont.

CCAGACGATGCCAGTTTTCTCCGGCTCCTACATGTAAATACCACGCATCAGG
TTCATCATGAATTTCGATACCTTTGATCCGGTTGATGATCACCGTGCCGCGAT
AGTCCTCCAGAAAAAGTACATTACTTCCTTCACCCAGAATAAGAACGGGTTG
TCCTTCTGCGGTTGCATACTGCCAGGCATTGAGTAATTGTTGTTCGTCTTCGG
CACATACAATGTGCTGAGCATTATGATCAATGCCAAATGTGTTCCAGGGTTT
TAAGGAGTGGTTCATAGCTGCTTTCCTGATGCAAAAACGAGGCTAGTTTACC
GTATCTGTGGGGGGATGGCTTGTAGATATGACGACAGGAAGAGTTTGTAGAA
ACGCAAAAAGGCCATCCGTCAGGATGGCCTTCTGCTTAATTTGATGCCTGGC
AGTTTATGGCGGGCGTCCTGCCCGCCACCCTCCGGGCCGTTGCTTCGCAACG
TTCAAATCCGCTCCCGGCGGATTTGTCCTACTCAGGAGAGCGTTCACCGACA
AACAACAGATAAAACGAAAGGCCCAGTCTTTCGACTGAGCCTTTCGTTTTAT
TTGATGCCTGGCAGTTCCCTACTCTCGCATGGGGAGACCCCACACTACCATC
GGCGCTACGGCGTTTCACTTCTGAGTTCGGCATGGGGTCAGGTGGGACCACC
GCGCTACTGCCGCCAGGCAAATTCTGTTTTATCAGACCGCTTCTGCGTTCTGA
TTTAATCTGTATCAGGCTGAAAATCTTCTCTCATCCGCCAAAACAGCTTCGGC
GTTGTAAGGTTAAGCCTCACGGTTCATTAGTACCGGTTAGCTCAACGCATCG
CTGCGCTTACACACCCGGCCTATCAACGTCGTCGTCTTCAACGTTCCTTCAGG
ACCCTTAAAGGGTCAGGGAGAACTCATCTCGGGGCAAGTTTCGTGCTTAGAT
GCTTTCAGCACTTATCTCTTCCGCATTTAGCTACCGGGCAGTGCCATTGGCAT
GACAACCCGAACACCAGTGATGCGTCCACTCCGGTCCTCTCGTACTAGGAGC
AGCCCCCCTCAGTTCTCCAGCGCCCACGGCAGATAGGGACCGAACTGTCTCA
CGACGTTCTAAACCCAGCTCGCGTACCACTTTAAATGGCGAACAGCCATACC
CTTGGGACCTACTTCAGCCCCAGGATGTGATGAGCCGACATCGAGGTGCCAA
ACACCGCCGTCGATATGAACTCTTGGGCGGTATCAGCCTGTTATCCCCGGAG
TACCTTTTATCCGTTGAGCGATGGCCCTTCCATTCAGAACCACCGGATCACTA
TGACCTGCTTTCGCACCTGCTCGCGCCGTCACGCTCGCAGTCAAGCTGGCTTA
TGCCATTGCACTAACCTCCTGATGTCCGACCAGGATTAGCCAACCTTCGTGCT
CCTCCGTTACTCTTTAGGAGGAGACCGCCCCAGTCAAACTACCCACCAGACA
CTGTCCGCAACCCGGATTACGGGTCAACGTTAGAACATCAAACATTAAAGGG
TGGTATTTCAAGGTCGGCTCCATGCAGACTGGCGTCCACACTTCAAAGCCTC
CCACCTATCCTACACATCAAGGCTCAATGTTCAGTGTCAAGCTATAGTAAAG
GTTCACGGGGTCTTTCCGTCTTGCCGCGGGTACACTGCATCTTCACAGCGAGT
TCAATTTCACTGAGTCTCGGGTGGAGACAGCCTGGCCATCATTACGCCATTC
GTGCAGGTCGGAACTTACCCGACAAGGAATTTCGCTACCTTAGGACCGTTAT
AGTTACGGCCGCCGTTTACCGGGGCTTCGATCAAGAGCTTCGCTTGCGCTAA
CCCCATCAATTAACCTTCCGGCACCGGGCAGGCGTCACACCGTATACGTCCA
CTTTCGTGTTTGCACAGTGCTGTGTTTTTAATAAACAGTTGCAGCCAGCTGGT
ATCTTCGACTGATTTCAGCTCCATCCGCGAGGGACCTCACCTACATATCAGC
GTGCCTTCTCCCGAAGTTACGGCACCATTTTGCCTAGTTCCTTCACCCGAGTT
CTCTCAAGCGCCTTGGTATTCTCTACCTGACCACCTGTGTCGGTTTGGGGTAC
GATTTGATGTTACCTGATGCTTAGAGGCTTTTCCTGGAAGCAGGGCATTTGTT
GCTTCAGCACCGTAGTGCCTCGTCATCACGCCTCAGCCTTGATTTTCCGGATT
TGCCTGGAAAACCAGCCTACACGCTTAAACCGGGACAACCGTCGCCCGGCCA
ACATAGCCTTCTCCGTCCCCCCTTCGCAGTAACACCAAGTACAGGAATATTA
ACCTGTTTCCCATCGACTACGCCTTTCGGCCTCGCCTTAGGGGTCGACTCACC
CTGCCCCGATTAACGTTGGACAGGAACCCTTGGTCTTCCGGCGAGCGGGCTT

Fig. 23

Cont.

TTCACCCGCTTTATCGTTACTTATGTCAGCATTCGCACTTCTGATACCTCCAG
CATGCCTCACAGCACACCTTCGCAGGCTTACAGAACGCTCCCCTACCCAACA
ACGCATAAGCGTCGCTGCCGCAGCTTCGGTGCATGGTTTAGCCCCGTTACAT
CTTCCGCGCAGGCCGACTCGACCAGTGAGCTATTACGCTTTCTTTAAATGATG
GCTGCTTCTAAGCCAACATCCTGGCTGTCTGGGCCTTCCCACATCGTTTCCCA
CTTAACCATGACTTTGGGACCTTAGCTGGCGGTCTGGGTTGTTTCCCTCTTCA
CGACGGACGTTAGCACCCGCCGTGTGTCTCCCGTGATAACATTCTCCGGTATT
CGCAGTTTGCATCGGGTTGGTAAGTCGGGATGACCCCCTTGCCGAAACAGTG
CTCTACCCCCGGAGATGAATTCACGAGGCGCTACCTAAATAGCTTTCGGGGA
GAACCAGCTATCTCCCGGTTTGATTGGCCTTTCACCCCCAGCCACAAGTCATC
CGCTAATTTTTCAACATTAGTCGGTTCGGTCCTCCAGTTAGTGTTACCCAACC
TTCAACCTGCCCATGGCTAGATCACCGGGTTTCGGGTCTATACCCTGCAACTT
AACGCCCAGTTAAGACTCGGTTTCCCTTCGGCTCCCCTATTCGGTTAACCTTG
CTACAGAATATAAGTCGCTGACCCATTATACAAAAGGTACGCAGTCACACGC
CTAAGCGTGCTCCCACTGCTTGTACGTACACGGTTTCAGGTTCTTTTTCACTC
CCCTCGCCGGGGTTCTTTTCGCCTTTCCCTCACGGTACTGGTTCACTATCGGT
CAGTCAGGAGTATTTAGCCTTGGAGGATGGTCCCCCCATATTCAGACAGGAT
ACCACGTGTCCCGCCCTACTCATCGAGCTCACAGCATGTGCATTTTTGTGTAC
GGGGCTGTCACCCTGTATCGCGCGCCTTTCCAGACGCTTCCACTAACACACA
CACTGATTCAGGCTCTGGGCTGCTCCCCGTTCGCTCGCCGCTACTGGGGGAA
TCTCGGTTGATTTCTTTTCCTCGGGGTACTTAGATGTTTCAGTTCCCCCGGTTC
GCCTCATTAACCTATGGATTCAGTTAATGATAGTGTGTCGAAACACACTGGG
TTTCCCCATTCGGAAATCGCCGGTTATAACGGTTCATATCACCTTACCGACGC
TTATCGCAGATTAGCACGTCCTTCATCGCCTCTGACTGCCAGGGCATCCACCG
TGTACGCTTAGTCGCTTAACCTCACAACCCGAAGATGTTTCTTTCGATTCATC
ATCGTGTTGCGAAAATTTGAGAGACTCACGAACAACTCTCGTTGTTCAGTGT
TTCAATTTTCAGCTTGATCCAGATTTTTAAAGAGCAAAAATCTCAAACATCAC
CCGAAGATGAGTTTTGAGATATTAAGGTCGGCGACTTTCACTCACAAACCAG
CAAGTGGCGTCCCCTAGGGGATTCGAACCCCTGTTACCGCCGTGAAAGGGCG
GTGTCCTGGGCCTCTAGACGAAGGGGACACGAAAATTGCTTATCACGCGTTG
CGTGATATTTTCGTGTAGGGTGAGCTTTCATTAATAGAAAGCGAACGGCCTT
ATTCTCTTCAGCCTCACTCCCAACGCGTAAACGCCTTGCTTTTCACTTTCTATC
AGACAATCTGTGTGAGCACTACAAAGTACGCTTCTTTAAGGTAATCCCATGA
TCCAACCGCAGGTTCCCCTACGGTTACCTTGTTACGACTTCACCCCAGTCATG
AATCACAAAGTGGTAAGCGCCCTCCCGAAGGTTAAGCTACCTACTTCTTTTG
CAACCCACTCCCATGGTGTGACGGGCGGTGTGTACAAGGCCCGGGAACGTAT
TCACCGTGGCATTCTGATCCACGATTACTAGCGATTCCGACTTCATGGAGTCG
AGTTGCAGACTCCAATCCGGACTACGACGCACTTTATGAGGTCCGCTTGCTC
TCGCGAGGTCGCTTCTCTTTGTATGCGCCATTGTAGCACGTGTGTAGCCCTGG
TCGTAAGGGCCATGATGACTTGACGTCATCCCCACCTTCCTCCAGTTTATCAC
TGGCAGTCTCCTTTGAGTTCCCGGCCGGACCGCTGGCAACAAAGGATAAGGG
TTGCGCTCGTTGCGGGACTTAACCCAACATTTCACAACACGAGCTGACGACA
GCCATGCAGCACCTGTCTCACGGTTCCCGAAGGCACATTCTCATCTCTGAAA
ACTTCCGTGGATGTCAAGACCAGGTAAGGTTCTTCGCGTTGCATCGAATTAA
ACCACATGCTCCACCGCTTGTGCGGGCCCCCGTCAATTCATTTGAGTTTTAAC
CTTGCGGCCGTACTCCCCAGGCGGTCGACTTAACGCGTTAGCTCCGGAAGCC

Fig. 23

Cont.

ACGCCTCAAGGGCACAACCTCCAAGTCGACATCGTTTACGGCGTGGACTACC
AGGGTATCTAATCCTGTTTGCTCCCCACGCTTTCGCACCTGAGCGTCAGTCTT
CGTCCAGGGGGCCGCCTTCGCCACCGGTATTCCTCCAGATCTCTACGCATTTC
ACCGCTACACCTGGAATTCTACCCCCCTCTACGAGACTCAAGCTTGCCAGTA
TCAGATGCAGTTCCCAGGTTGAGCCCGGGGATTTCACATCTGACTTAACAAA
CCGCCTGCGTGCGCTTTACGCCCAGTAATTCCGATTAACGCTTGCACCCTCCG
TATTACCGCGGCTGCTGGCACGGAGTTAGCCGGTGCTTCTTCTGCGGGTAAC
GTCAATGAGCAAAGGTATTAACTTTACTCCCTTCCTCCCCGCTGAAAGTACTT
TACAACCCGAAGGCCTTCTTCATACACGCGGCATGGCTGCATCAGGCTTGCG
CCCATTGTGCAATATTCCCCACTGCTGCCTCCCGTAGGAGTCTGGACCGTGTC
TCAGTTCCAGTGTGGCTGGTCATCCTCTCAGACCAGCTAGGGATCGTCGCCT
AGGTGAGCCGTTACCCCACCTACTAGCTAATCCCATCTGGGCACATCCGATG
GCAAGAGGCCCGAAGGTCCCCCTCTTTGGTCTTGCGACGTTATGCGGTATTA
GCTACCGTTTCCAGTAGTTATCCCCCTCCATCAGGCAGTTTCCCAGACATTAC
TCACCCGTCCGCCACTCGTCAGCAAAGAAGCAAGCTTCTTCCTGTTACCGTTC
GACTTGCATGTGTTAGGCCTGCCGCCAGCGTTCAATCTGAGCCATGATCAAA
CTCTTCAATTTAAAAGTTTGACGCTCAAAGAATTAAACTTCGTAATGAATTAC
GTGTTCACTCTTGAGACTTGGTATTCATTTTTCGTCTTGCGACGTTAAGAATC
CGTATCTTCGAGTGCCCACACAGATTGTCTGATAAATTGTTAAAGAGCAGTG
CCGCTTCGCTTTTTCTCAGCGGCCGCTGTGTGAAATTGTTATCCGCTCACAAT
TCCACACATTATACGAGCCGGAAGCATAAAGTGTAAAGCCTGGGGTGCCTAA
TGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCCCGCTTTCCAGTC
GGGAAACCTGTCGTGCCAGCTGCATTAATGAATCGGCCAACGCGCGGGGAG
AGGCGGTTTGCGTATTGGGCGCCAGGGTGGTTTTTCTTTTCACCAGTGAGAC
GGGCAACAGCTGATTGCCCTTCACCGCCTGGCCCTGAGAGAGTTGCAGCAAG
CGGTCCACGCTGGTTTGCCCCAGCAGGCGAAAATCCTGTTTGATGGTGGTTG
ACGGCGGGATATAACATGAGCTGTCTTCGGTATCGTCGTATCCCACTACCGA
GATATCCGCACCAACGCGCAGCCCGGACTCGGTAATGGCGCGCATTGCGCCC
AGCGCCATCTGATCGTTGGCAACCAGCATCGCAGTGGGAACGATGCCCTCAT
TCAGCATTTGCATGGTTTGTTGAAAACCGGACATGGCACTCCAGTCGCCTTCC
CGTTCCGCTATCGGCTGAATTTGATTGCGAGTGAGATATTTATGCCAGCCAG
CCAGACGCAGACGCGCCGAGACAGAACTTAATGGGCCCGCTAACAGCGCGA
TTTGCTGGTGACCCAATGCGACCAGATGCTCCACGCCCAGTCGCGTACCGTC
TTCATGGGAGAAAATAATACTGTTGATGGGTGTCTGGTCAGAGACATCAAGA
AATAACGCCGGAACATTAGTGCAGGCAGCTTCCACAGCAATGGCATCCTGGT
CATCCAGCGGATAGTTAATGATCAGCCCACTGACCCGTTGCGCGAGAAGATT
GTGCACCGCCGCTTTACAGGCTTCGACGCCGCTTCGTTCTACCATCGACACCA
CCACGCTGGCACCCAGTTGATCGGCGCGAGATTTAATCGCCGCGACAATTTG
CGACGGCGCGTGCAGGGCCAGACTGGAGGTGGCAACGCCAATCAGCAACGA
CTGTTTGCCCGCCAGTTGTTGTGCCACGCGGTTGGGAATGTAATTCAGCTCCG
CCATCGCCGCTTCCACTTTTTCCCGCGTTTTCGCAGAAACGTGGCTGGCCTGG
TTCACCACGCGGGAAACGGTCTGATAAGAGACACCGGCATACTCTGCGACAT
CGTATAACGTTACTGGTTTCACATTCACCACCCTGAATTGACTCTCTTCCGGG
CGCTATCATGCCATACCGCGAAAGGTTTTGCACCATTCGATGGTGTCG

Fig. 23

Cont.

AAATTGAAGAGTTTGATCATGGCTCAGATTGAACGCTGGCGGCAGGCCTAAC
ACATGCAAGTCGAACGGTAACAGGAAGAAGCTTGCTTCTTTGCTGACGAGTG
GCGGACGGGTGAGTAATGTCTGGGAAACTGCCTGATGGAGGGGGATAACTA
CTGGAAACGGTAGCTAATACCGCATAACGTCGCAAGACCAAAGAGGGGGAC
CTTCGGGCCTCTTGCCATCGGATGTGCCCAGATGGGATTAGCTAGTAGGTGG
GGTAACGGCTCACCTAGGCGACGATCCCTAGCTGGTCTGAGAGGATGACCAG
CCACACTGGAACTGAGACACGGTCCAGACTCCTACGGGAGGCAGCAGTGGG
GAATATTGCACAATGGGCGCAAGCCTGATGCAGCCATGCCGCGTGTATGAAG
AAGGCCTTCGGGTTGTAAAGTACTTTCAGCGGGGAGGAAGGGAGTAAAGTT
AATACCTTTGCTCATTGACGTTACCCGCAGAAGAAGCACCGGCTAACTCCGT
GCCAGCAGCCGCGGTAATACGGAGGGTGCAAGCGTTAATCGGAATTACTGG
GCGTAAAGCGCACGCAGGCGGTTTGTTAAGTCAGATGTGAAATCCCCGGGCT
CAACCTGGGAACTGCATCTGATACTGGCAAGCTTGAGTCTCGTAGAGGGGGG
TAGAATTCCAGGTGTAGCGGTGAAATGCGTAGAGATCTGGAGGAATACCGG
TGGCGAAGGCGGCCCCCTGGACGAAGACTGACGCTCAGGTGCGAAAGCGTG
GGGAGCAAACAGGATTAGATACCCTGGTAGTCCACGCCGTAAACGATGTCG
ACTTGGAGGTTGTGCCCTTGAGGCGTGGCTTCCGGAGCTAACGCGTTAAGTC
GACCGCCTGGGGAGTACGGCCGCAAGGTTAAAACTCAAATGAATTGACGGG
GGCCCGCACAAGCGGTGGAGCATGTGGTTTAATTCGATGCAACGCGAAGAA
CCTTACCTGGTC
TTGACATCCACGGAAGTTTTCAGAGATGAGAATGTGCCTTCGGGAACCGTGA
GACAGGTGCTGCATGGCTGTCGTCAGCTCGTGTTGTGAAATGTTGGGTTAAG
TCCCGCAACGAGCGCAACCCTTATCCTTTGTTGCCAGCGGTCCGGCCGGGAA
CTCAAAGGAGACTGCCAGTGATAAACTGGAGGAAGGTGGGGATGACGTCAA
GTCATCATGGCCCTTACGACCAGGGCTACACACGTGCTACAATGGCGCATAC
AAAGAGAAGCGACCTCGCGAGAGCAAGCGGACCTCATAAAGTGCGTCGTAG
TCCGGATTGGAGTCTGCAACTCGACTCCATGAAGTCGGAATCGCTAGTAATC
GTGGATCAGAATGCCACGGTGAATACGTTCCCGGGCCTTGTACACACCGCCC
GTCACACCATGGGAGTGGGTTGCAAAAGAAGTAGGTAGCTTAACCTTCGGG
AGGGCGCTTACCACTTTGTGATTCATGACTGGGGTGAAGTCGTAACAAGGTA
ACCGTAGGGGAACCTGCGGTTGGATCATGGGATTACCTTAAAGAAGCGTACT
TTGTAGTGCTCACACAGATTGTCTGATAGAAAGTGAAAAGCAAGGCGTTTAC
GCGTTGGGAGTGAGGCTGAAGAGAATAAGGCCGTTCGCTTTCTATTAATGAA
AGCTCACCCTACACGAAAATATCACGCAACGCGTGATAAGCAATTTTCGTGT
CCCCTTCGTCTAGAGGCCCAGGACACCGCCCTTTCACGGCGGTAACAGGGGT
TCGAATCCCCTAGGGGACGCCACTTGCTGGTTTGTGAGTGAAAGTCGCCGAC
CTTAATATCTCAAAACTCATCTTCGGGTGATGTTTGAGATTTTTGCTCTTTAA
AAATCTGGATCAAGCTGAAAATTGAAACACTGAACAACGAGAGTTGTTCGTG
AGTCTCTCAAATTTTCGCAACACGATGATGAATCGAAAGAAACATCTTCGGG
TTGT
GAGGTTAAGCGACTAAGCGTACACGGTGGATGCCCTGGCAGTCAGAGGCGA
TGAAGGACGTGCTAATCTGCGATAAGCGTCGGTAAGGTGATATGAACCGTTA
TAACCGGCGATTTCCGAATGGGGAAACCCAGTGTGTTTCGACACACTATCAT
TAACTGAATCCATAGGTTAATGAGGCGAACCGGGGGAACTGAAACATCTAA
GTACCCCGAGGAAAAGAAATCAACCGAGATTCCCCCAGTAGCGGCGAGCGA

Fig. 24

ACGGGGAGCAGCCCAGAGCCTGAATCAGTGTGTGTGTTAGTGGAAGCGTCTG
GAAAGGCGCGCGATACAGGGTGACAGCCCCGTACACAAAAATGCACATGCT
GTGAGCTCGATGAGTAGGGCGGGACACGTGGTATCCTGTCTGAATATGGGGG
GACCATCCTCCAAGGCTAAATACTCCTGACTGACCGATAGTGAACCAGTACC
GTGAGGGAAAGGCGAAAAGAACCCCGGCGAGGGGAGTGAAAAAGAACCTG
AAACCGTGTACGTACAAGCAGTGGGAGCACGCTTAGGCGTGTGACTGCGTAC
CTTTTGTATAATGGGTCAGCGACTTATATTCTGTAGCAAGGTTAACCGAATA
GGGGAGCCGAAGGGAAACCGAGTCTTAACTGGGCGTTAAGTTGCAGGGTAT
AGACCCGAAACCCGGTGATCTAGCCATGGGCAGGTTGAAGGTTGGGTAACA
CTAACTGGAGGACCGAACCGACTAATGTTGAAAAATTAGCGGATGACTTGTG
GCTGGGGGTGAAAGGCCAATCAAACCGGGAGATAGCTGGTTCTCCCCGAAA
GCTATTTAGGTAGCGCCTCGTGAATTCATCTCCGGGGGTAGAGCACTGTTTC
GGCAAGGGGGTCATCCCGACTTACCAACCCGATGCAAACTGCGAATACCGG
AGAATGTTATCACGGGAGACACACGGCGGGTGCTAACGTCCGTCGTGAAGA
GGGAAACAACCCA
GACCGCCAGCTAAGGTCCCAAAGTCATGGTTAAGTGGGAAACGATGTGGGA
AGGCCCAGACAGCCAGGATGTTGGCTTAGAAGCAGCCATCATTTAAAGAAA
GCGTAATAGCTCACTGGTCGAGTCGGCCTGCGCGGAAGATGTAACGGGGCTA
AACCATGCACCGAAGCTGCGGCAGCGACGCTTATGCGTTGTTGGGTAGGGGA
GCGTTCTGTAAGCCTGCGAAGGTGTGCTGTGAGGCATGCTGGAGGTATCAGA
AGTGCGAATGCTGACATAAGTAACGATAAAGCGGGTGAAAAGCCCGCTCGC
CGGAAGACCAAGGGTTCCTGTCCAACGTTAATCGGGGCAGGGTGAGTCGAC
CCCTAAGGCGAGGCCGAAAGGCGTAGTCGATGGGAAACAGGTTAATATTCC
TGTACTTGGTGTTACTGCGAAGGGGGGACGGAGAAGGCTATGTTGGCCGGGC
GACGGTTGTCCCGGTTTAAGCGTGTAGGCTGGTTTTCCAGGCAAATCCGGAA
AATCAAGGCTGAGGCGTGATGACGAGGCACTACGGTGCTGAAGCAACAAAT
GCCCTGCTTCCAGGAAAAGCCTCTAAGCATCAGGTAACATCAAATCGTACCC
CAAACCGACACAGGTGGTCAGGTAGAGAATACCAAGGCGCTTGAGAGAACT
CGGGTGAAGGAACTAGGCAAAATGGTGCCGTAACTTCGGGAGAAGGCACGC
TGATATGTAGGTGAGGTCCCTCGCGGATGGAGCTGAAATCAGTCGAAGATAC
CAGCTGGCTGCAACTGTTTATTAAAAACACAGCACTGTGCAAACACGAAAGT
GGACGTATACGGTGTGACGCCTGCCCGGTGCCGGAAGGTTAATTGATGGGGT
TAGCGCAAGCGAAGCTCTTGATCGAAGCCCCGGTAAACGGCGGCCGTAACT
ATAACGGTCCTAAGGTAGCGAAATTCCTTGTCGGGTAAGTTCCGACCTGCAC
GAATGGCGTAA
TGATGGCCAGGCTGTCTCCACCCGAGACTCAGTGAAATTGAACTCGCTGTGA
AGATGCAGTGTACCCGCGGCAAGACGGAAAGACCCCGTGAACCTTTACTATA
GCTTGACACTGAACATTGAGCCTTGATGTGTAGGATAGGTGGGAGGCTTTGA
AGTGTGGACGCCAGTCTGCATGGAGCCGACCTTGAAATACCACCCTTTAATG
TTTGATGTTCTAACGTTGACCCGTAATCCGGGTTGCGGACAGTGTCTGGTGG
GTAGTTTGACTGGGGCGGTCTCCTCCTAAAGAGTAACGGAGGAGCACGAAG
GTTGGCTAATCCTGGTCGGACATCAGGAGGTTAGTGCAATGGCATAAGCCAG
CTTGACTGCGAGCGTGACGGCGCGAGCAGGTGCGAAAGCAGGTCATAGTGA
TCCGGTGGTTCTGAATGGAAGGGCCATCGCTCAACGGATAAAAGGTACTCCG
GGGATAACAGGCTGATACCGCCCAAGAGTTCATATCGACGGCGGTGTTTGGC

Fig. 24
Cont

ACCTCGATGTCGGCTCATCACATCCTGGGGCTGAAGTAGGTCCCAAGGGTAT
GGCTGTTCGCCATTTAAAGTGGTACGCGAGCTGGGTTTAGAACGTCGTGAGA
CAGTTCGGTCCCTATCTGCCGTGGGCGCTGGAGAACTGAGGGGGGCTGCTCC
TAGTACGAGAGGACCGGAGTGGACGCATCACTGGTGTTCGGGTTGTCATGCC
AATGGCACTGCCCGGTAGCTAAATGCGGAAGAGATAAGTGCTGAAAGCATC
TAAGCACGAAACTTGCCCCGAGATGAGTTCTCCCTGACCCTTTAAGGGTCCT
GAAGGAACGTTGAAGACGACGACGTTGATAGGCCGGGTGTGTAAGCGCAGC
GATGCGTTGAGCTAACCGGTACTAATGAACCGTGAGGCTTAACCTTACAACG
CCGAAGCTGTTTTGGCGGATGAGAGAAGATTTTCAGCCTGATACAGATTAAA
TCAGAACGCAGAAGCGGTCTGATAAAACAGAATTTGCCTGGCGGCAGTAGC
GCGGTGGTCCCACCTGACCCCATGCCGAACTCAGAAGTGAAACGCCGTAGCG
CCGATGGTAGTGTGGGGTCTCCCCATGCGAGAGTAGGGA
ACTGCCAGGCATCAAATAAAACGAAAGGCTCAGTCGAAAGACTGGGCCTTT
CGTTTTATCTGTTGTTTGTCGGTGAACGCTCTCCTGAGTAGGACAAATCCGCC
GGGAGCGGATTTGAACGTTGCGAAGCAACGGCCCGGAGGGTGGCGGGCAGG
ACGCCCGCCATAAACTGCCAGGCATCAAATTAAGCAGAAGGCCATCCTGAC
GGATGGCCTTTTTGCGTTTCTACAAACTCTTCCTGTCGTCATATCTACAAGCC
ATCCCCCCACAGATACGGTAAACTAGCCTCGTTTTTGCATCAGGAAAGCAGC
TATGAACCACTCCTTAAAACCCTGGAACACATTTGGCATTGATCATAATGCT
CAGCACATTGTATGGGCCTTAAGGGCCCAACAATTACTCAATGCCTGGCAGT
ATGCAACCGCAGAAGGACAACCCGTTCTTATTCTGGGTGAAGGAAGTAATGT
ACTTTTTCTGGAGGACTATCGCGGCACGGTGATCATCAACCGGATCAAAGGT
ATCGAAATTCATGATGAACCTGATGCGTGGTATTTACATGTAGGAGCCGGAG
AAAACTGGCATCGTCTGGTAAAATACACTTTGCAGGAAGGTATGCCTGGTCT
GGAAAATCTGGCATTAATTCCTGGTTGTGTCGGCTCATCACCTATCCAGAAT
ATTGGTGCTTATGGCGTAGAATTACAGCGAGTTTGCGCTTATGTTGATTCTGT
TGAACTGGCGACAGGCAAGCAAGTGCGCTTAACTGCCAAAGAGTGCCGTTTT
GGCTATCGCGACAGTATTTTTAAACATGAATACCAGGACCGCTTCGCTATTG
TAGCCGTAGGTCTGCGTCTGCCAAAAGAGTGGCAACCTGTACTAACGTATGG
TGACTTAACTCGTCTGGGATCCACAGGACGGGTGTGGTCGCCATGATCGCGT
AGTCGATAGTGGCTCCAAGTAGCGAAGCGAGCAGGACTGGGCGGCGGCCAA
AGC
GGTCGGACAGTGCTCCGAGAACGGGTGCGCATAGAAATTGCATCAACGCAT
ATAGCGCTAGCAGCACGCCATAGTGACTGGCGATGCTGTCGGAATGGACGAT
ATCCCGCAAGAGGCCCGGCAGTACCGGCATAACCAAGCCTATGCCTACAGC
ATCCAGGGTGACGGTGCCGAGGATGACGATGAGCGCATTGTTAGATTTCATA
CACGGTGCCTGACTGCGTTAGCAATTTAACTGTGATAAACTACCGCATTAAA
GCTTATCGATGATAAGCTGTCAAACATGAGAATTCTTGAAGACGAAAGGGCC
TCGTGATACGCCTATTTTTATAGGTTAATGTCATGATAATAATGGTTTCTTAG
ACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTTGTTTATT
TTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAA
ATGCTTCAATAATATTGAAAAAGGAAGAGTATGAGTATTCAACATTTCCGTG
TCGCCCTTATTCCCTTTTTTGCGGCATTTTGCCTTCCTGTTTTTGCTCACCCAG
AAACGCTGGTGAAAGTAAAAGATGCTGAAGATCAGTTGGGTGCACGAGTGG
GTTACATCGAACTGGATCTCAACAGCGGTAAGATCCTTGAGAGTTTTCGCCC

Fig. 24
Cont.

CGAAGAACGTTTTCCAATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGCG
GTATTATCCCGTGTTGACGCCGGGCAAGAGCAACTCGGTCGCCGCATACACT
ATTCTCAGAATGACTTGGTTGAGTACTCACCAGTCACAGAAAAGCATCTTAC
GGATGGCATGACAGTAAGAGAATTATGCAGTGCTGCCATAACCATGAGTGAT
AACACTGCGGCCAACTTACTTCTGACAACGATCGGAGGACCGAAGGAGCTA
ACCGCTTTTTTGCACAACATGGGGGATCATGTAACTCGCCTTGATCGTTGGG
AA
CCGGAGCTGAATGAAGCCATACCAAACGACGAGCGTGACACCACGATGCCT
GCAGCAATGGCAACAACGTTGCGCAAACTATTAACTGGCGAACTACTTACTC
TAGCTTCCCGGCAACAATTAATAGACTGGATGGAGGCGGATAAAGTTGCAG
GACCACTTCTGCGCTCGGCCCTTCCGGCTGGCTGGTTTATTGCTGATAAATCT
GGAGCCGGTGAGCGTGGGTCTCGCGGTATCATTGCAGCACTGGGGCCAGATG
GTAAGCCCTCCCGTATCGTAGTTATCTACACGACGGGGAGTCAGGCAACTAT
GGATGAACGAAATAGACAGATCGCTGAGATAGGTGCCTCACTGATTAAGCA
TTGGTAACTGTCAGACCAAGTTTACTCATATATACTTTAGATTGATTTAAAAC
TTCATTTTTAATTTAAAAGGATCTAGGTGAAGATCCTTTTTGATAATCTCATG
ACCAAAATCCCTTAACGTGAGTTTTCGTTCCACTGAGCGTCAGACCCCGTAG
AAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTTCTGCGCGTAATCTGCTGC
TTGCAAACAAAAAAACCACCGCTACCAGCGGTGGTTTGTTTGCCGGATCAAG
AGCTACCAACTCTTTTTCCGAAGGTAACTGGCTTCAGCAGAGCGCAGATACC
AAATACTGTCCTTCTAGTGTAGCCGTAGTTAGGCCACCACTTCAAGAACTCT
GTAGCACCGCCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGC
CAGTGGCGATAAGTCGTGTCTTACCGGGTTGGACTCAAGACGATAGTTACCG
GATAAGGCGCAGCGGTCGGGCTGAACGGGGGGTTCGTGCACACAGCCCAGC
TTGGAGCGAACGACCTACACCGAACTGAGATACCTACAGCGTGAGCTATGA
GAAAGCGCCACGCTTCCCGAAGGGAGAAAGGCGGACAGGTATCCGGTAAGC
GGC
AGGGTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGGAAACGCCTGG
TATCTTTATAGTCCTGTCGGGTTTCGCCACCTCTGACTTGAGCGTCGATTTTT
GTGATGCTCGTCAGGGGGGCGGAGCCTATGGAAAAACGCCAGCAACGCGGC
CTTTTTACGGTTCCTGGCCTTTTGCTGGCCTTTTGCTCACATGTTCTTTCCTGC
GTTATCCCCTGATTCTGTGGATAACCGTATTACCGCCTTTGAGTGAGCTGATA
CCGCTCGCCGCAGCCGAACGACCGAGCGCAGCGAGTCAGTGAGCGAGGAAG
CGGAAGAGCGCCTGATGCGGTATTTTCTCCTTACGCATCTGTGCGGTATTTCA
CACCGCATATGGTGCACTCTCAGTACAATCTGCTCTGATGCCGCATAGTTAA
GCCAGTATACACTCCGCTATCGCTACGTGACTGGGTCATGGCTGCGCCCCGA
CACCCGCCAACACCCGCTGACGCGCCCTGACGGGCTTGTCTGCTCCCGGCAT
CCGCTTACAGACAAGCTGTGACCGTCTCCGGGAGCTGCATGTGTCAGAGGTT
TTCACCGTCATCACCGAAACGCGCGAGGCAGCTGCGGTAAAGCTCATCAGCG
TGGTCGTGAAGCGATTCACAGATGTCTGCCTGTTCATCCGCGTCCAGCTCGTT
GAGTTTCTCCAGAAGCGTTAATGTCTGGCTTCTGATAAAGCGGGCCATGTTA
AGGGCGGTTTTTTCCTGTTTGGTCACTTGATGCCTCCGTGTAAGGGGGAATTT
CTGTTCATGGGGGTAATGATACCGATGAAACGAGAGAGGATGCTCACGATA
CGGGTTACTGATGATGAACATGCCCGGTTACTGGAACGTTGTGAGGGTAAAC
AACTGGCGGTATGGATGCGGCGGGACCAGAGAAAAATCACTCAGGGTCAAT

Fig. 24

Cont.

GCCAGCGCTTCGTTAATACAGATGTAGGTGTTCCACAGGGTAGCCAGCAGCA
TCCTGCGATGCCTGGCGAAAGGGGGATGTGCTGCAAGGCGATTAAGTTGGGT
AACGCCAGGGTTTTCCCAGTCACGACGTTGTAAAACGACGGCCAGTGAATTC
GAGCTCGGTACCTGCACTGACGACAGGAAGAG
TTTGTAGAAACGCAAAAAGGCCATCCGTCAGGATGGCCTTCTGCTTAATTTG
ATGCCTGGCAGTTTATGGCGGGCGTCCTGCCCGCCACCCTCCGGGCCGTTGC
TTCGCAACGTTCAAATCCGCTCCCGGCGGATTTGTCCTACTCAGGAGAGCGT
TCACCGACAAACAACAGATAAAACGAAAGGCCCAGTCTTTCGACTGAGCCTT
TCGTTTTATTTGATGCCTGGCAGTTCCCTACTCTCGCATGGGGAGACCCCACA
CTACCATCGGCGCTACGACTAGATTATTTGTAGAGCTCATCCATGCCATGTGT
AATCCCAGCAGCAGTTACAAACTCAAGAAGGACCATGTGGTCACGCTTTTCG
TTGGGATCTTTCGAAAGGGCAGATTGTGTCGACAGGTAATGGTTGTCTGGTA
AAAGGACAGGGCCATCGCCAATTGGAGTATTTTGTTGATAATGGTCTGCTAG
TTGAACGGATCCATCTTCAATGTTGTGGCGAATTTTGAAGTTAGCTTTGATTC
CATTCTTTTGTTTGTCTGCCGTGATGTATACATTGTGTGAGTTATAGTTGTACT
CGAGTTTGTGTCCGAGAATGTTTCCATCTTCTTTAAAATCAATACCTTTTAAC
TCGATACGATTAACAAGGGTATCACCTTCAAACTTGACTTCAGCACGCGTCT
TGTAGTTCCCGTCATCTTTGAAAGATATAGTGCGTTCCTGTACATAACCTTCG
GGCATGGCACTCTTGAAAAAGTCATGCCGTTTCATATGATCCGGATAACGGG
AAAAGCATTGAACACCATAAGAGAAAGTAGTGACAAGTGTTGGCCATGGAA
CAGGTAGTTTTCCAGTAGTGCAAATAAATTTAAGGGTAAGCTTTCCGTATGT
AGCATCACCTTCACCCTCTCCACTGACAGAAAATTTGTGCCCATTAACATCAC
CATCTAATTCAACAAGAATTGGGACAACTCCAGTGAAAAGTTCTTCT
CCTTTGCTCGCAGTGATTTTTTTCTCCATTTGCGGAGGGATATGAAAGCGGCC
GCTTCCACACATTAAACTAGTTCGATGATTAATTGTCAACAGCTCGCCGGCG
GCACCTCGCTAACGGATTCACCACTCCAAGAATTGGAGCCAATCGATTCTTG
CGGAGAACTGTGAATGCGGGTACCCAGATCCGGAACATAATGGTGCAGGGC
GCTGACTTCCGCGTTTCCAGACTTTACGAAACACGGAAACCGAAGACCATTC
ATGTTGTTGCTCAGGTCGCAGACGTTTTGCAGCAGCAGTCGCTTCACGTTCGC
TCGCGTATCGGTGATTCATTCTGCTAACCAGTAAGGCAACCCCGCCAGCCTA
GCCGGGTCCTCAACGACAGGAGCACGATCATGCGCACCCGTGGCCAGGACC
CAACGCTGCCCGAGATGCGCCGCGTGCGGCTGCTGGAGATGGCGGACGCGA
TGGATATGTTCTGCCAAGGGTTGGTTTGCGCATTCACAGTTCTCCGCAAGAAT
CGATTGGCTCCAATTCTTGGAGTGGTGAATCCGTTAGCGAGGTGCCGCCGGC
GAGCTGTTGACAATTAATCATCGAACTAGTTTAATGTGTGGAAGCGGCCGCT
TTCATATCCCTCCGCAAATGGAGAAAAAAATCACTGGATATACCACCGTTGA
TATATCCCAATGGCATCGTAAAGAACATTTTGAGGCATTTCAGTCAGTTGCTC
AATGTACCTATAACCAGACCGTTCAGCTGGATATTACGGCCTTTTTAAAGAC
CGTAAAGAAAAATAAGCACAAGTTTTATCCGGCCTTTATTCACATTCTTGCCC
GCCTGATGAATGCTCATCCGGAATTCCGTATGGCAATGAAAGACGGTGAGCT
GGTGATATGGGATAGTGTTCACCCTTGTTACACCGTTTTCCATGAGCAAACTG
AAACGTTTTCATCGCTCTGGAGTGAATACCACGACGATTTCCGGCAGTTTC
TACACATATATTCGCAAGATGTGGCGTGTTACGGTGAAAACCTGGCCTATTT
CCCTAAAGGGTTTATTGAGAATATGTTTTTCGTCTCAGCCAATCCCTGGGTGA
GTTTCACCAGTTTTGATTTAAACGTGGCCAATATGGACAACTTCTTCGCCCCC

Fig. 24

Cont.

GTTTTCACCATGGGCAAATATTATACGCAAGGCGACAAGGTGCTGATGCCGC
TGGCGATTCAGGTTCATCATGCCGTCTGTGATGGCTTCCATGTCGGCAGAAT
GCTTAATGAATTACAACAGTACTGCGATGAGTGGCAGGGCGGGGCGTAATTT
TTTTAAGGCAGTTATTGGTGCCCTTAAACGCCTGGTGCTACGCCTGAATAAGT
GATAATAAGCGGATGAATGGCAGAAATTCGAAAGCAAATTCGACCCGGTCG
TCGGTTCAGGGCAGGGTCGTTAAATAGCCGCTTATGTCTATTGCTGGTTTACG
GTTTATTGACTACCCGAAGCAGTGTGACCCTGTGCTTCTCAAATGCCTGAGG
GCAGTTTGCTCAGGTCTCCCGTGGGGGGAATAATTAACGGTATGAGCCTTA
CGGCGGACGGATCGTGGCCGCAAGTGGGTCCGGCTAGAGGATCCGACACCA
TCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGA
GTATGCCGGTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGC
CACGTTTCTGCGAAAACGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTG
AATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTGC
TGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTC
GCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGTCGA
T
GGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCT
CGCGCAACGGGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGAT
GCCATTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGT
CTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACG
CGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGT
TAGCGGGCCCATTAAGTTCTGTCTCGGCGCGTCTGCGTCTGGCTGGCTGGCAT
AAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGAC
TGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGCA
TCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAAT
GCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTG
GGATACGACGATACCGAAGACAGCTCATGTTATATCCCGCCGTCAACCACCA
TCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGcGGACCGCTTGCTGCA
ACTCTCTCAGGGCCAGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACTG
GTGAAAAGAAAAACCACCCTGGCGCCCAATACGCAAACCGCCTCTCCCCGC
GCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTTCCCGACTGGAAA
GCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTCATTAGGCAC
CCCAGGCTTTACACTTTATGCTTCCGGCTCGTATAATGTGTGGAATTGTGAGC
GGATAACAATTTCACACAGCGGCCGCTGAGAAAAAGCGAAGCGGCACTGCT
CTTTAACAATTTATCAGACAATCTGTGTGGGCACTCGAAGATACGGATTCTT
AACGTCGCAAGACGAAAAATGAATACCAAGTCTCAAGAGTGAACACGTAAT
TCATTACGAAGTTTAATTCTTTGAGCGTCAAACTTTTAACGACGGCCAGTGA
ATTCGAGCTCGGTACCTGCACTGACGACAGGAAGAG

Fig. 24
Cont.

AAATTGAAGAGTTTGATCATGGCTCAGATTGAACGCTGGCGGCAGGCCTAAC
ACATGCAAGTCGAACGGTAACAGGAAGAAGCTTGCTTCTTTGCTGACGAGTG
GCGGACGGGTGAGTAATGTCTGGGAAACTGCCTGATGGAGGGGGATAACTA
CTGGAAACGGTAGCTAATACCGCATAACGTCGCAAGACCAAAGAGGGGGAC
CTTCGGGCCTCTTGCCATCGGATGTGCCCAGATGGGATTAGCTAGTAGGTGG
GGTAACGGCTCACCTAGGCGACGATCCCTAGCTGGTCTGAGAGGATGACCAG
CCACACTGGAACTGAGACACGGTCCAGACTCCTACGGGAGGCAGCAGTGGG
GAATATTGCACAATGGGCGCAAGCCTGATGCAGCCATGCCGCGTGTATGAAG
AAGGCCTTCGGGTTGTAAAGTACTTTCAGCGGGGAGGAAGGGAGTAAAGTT
AATACCTTTGCTCATTGACGTTACCCGCAGAAGAAGCACCGGCTAACTCCGT
GCCAGCAGCCGCGGTAATACGGAGGGTGCAAGCGTTAATCGGAATTACTGG
GCGTAAAGCGCACGCAGGCGGTTTGTTAAGTCAGATGTGAAATCCCCGGGCT
CAACCTGGGAACTGCATCTGATACTGGCAAGCTTGAGTCTCGTAGAGGGGGG
TAGAATTCCAGGTGTAGCGGTGAAATGCGTAGAGATCTGGAGGAATACCGG
TGGCGAAGGCGGCCCCCTGGACGAAGACTGACGCTCAGGTGCGAAAGCGTG
GGGAGCAAACAGGATTAGATACCCTGGTAGTCCACGCCGTAAACGATGTCG
ACTTGGAGGTTGTGCCCTTGAGGCGTGGCTTCCGGAGCTAACGCGTTAAGTC
GACCGCCTGGGGAGTACGGCCGCAAGGTTAAAACTCAAATGAATTGACGGG
GGCCCGCACAAGCGGCGGAGCATGTGGATTAATTCGATGCAACGCGAAGAA
CCTTACCTGGGTTTGACATGCACAGGACGCGTCTAGAGATAGGCGTTCCCTT
GTGGCCTGTGTGCAGGTGGTGCATGGCTGTCGTCAGCTCGTGTCGTGAGATG
TTGGGTTAAGTCCCGCAACGAGCGCAACCCTTGTCTCATGTTGCCAGCACGT
AATGGTGGGGACTCGTGAGAGACTGCCGGGGTCAACTCGGAGGAAGGTGGG
GATGACGTCAAGTCATCATGCCCCTTATGTCCAGGGCTTCACACATGCTACA
ATGGCCGGTACAAAGGGCTGCGATGCCGCGAGGTTAAGCGAATCCTTAAAA
GCCGGTCTCAGTTCGGATCGGGGTCTGCAACTCGACCCCGTGAAGTCGGAGT
CGCTAGTAATCGCAGATCAGCAACGCTGCGGTGAATACGTTCCCGGGCCTTG
TACACACCGCCCGTCACGTCATGAAAGTCGGTAACACCCGAAGCCAGTGGCC
TAACCCTCGGGAGGGAGCTGTCGAAGGTGGGATCGGCGATTGGGACGAAGT
CGTAACAAGGTAACCGTAGGGGAACCTGCGGTTGGATCATGGGATTACCTTA
AAGAAGCGTACTTTGTAGTGCTCACACAGATTGTCTGATAGAAAGTGAAAAG
CAAGGCGTTTACGCGTTGGGAGTGAGGCTGAAGAGAATAAGGCCGTTCGCTT
TCTATTAATGAAAGCTCACCCTACACGAAAATATCACGCAACGCGTGATAAG
CAATTTTCGTGTCCCCTTCGTCTAGAGGCCCAGGACACCGCCCTTTCACGGCG
GTAACAGGGGTTCGAATCCCCTAGGGGACGCCACTTGCTGGTTTGTGAGTGA
AAGTCGCCGACCTTAATATCTCAAAACTCATCTTCGGGTGATGTTTGAGATTT
TTGCTCTTTAAAAATCTGGATCAAGCTGAAAATTGAAACACTGAACAACGAG
AGTTGTTCGTGAGTCTCTCAAATTTTCGCAACACGATGATGAATCGAAAGAA
ACATCTTCGGGTTGTGAGGTTAAGCGACTAAGCGTACACGGTGGATGCCCTG
GCAGTCAGAGGCGATGAAGGACGTGCTAATCTGCGATAAGCGTCGGTAAGG
TGATATGAACCGTTATAACCGGCGATTTCCGAATGGGGAAACCCAGTGTGTT
TCGACACACTATCATTAACTGAATCCATAGGTTAATGAGGCGAACCGGGGGA
ACTGAAACATCTAAGTACCCCGAGGAAAAGAAATCAACCGAGATTCCCCCA
GTAGCGGCGAGCGAACGGGGAGCAGCCCAGAGCCTGAATCAGTGTGTGTGT
TAGTGGAAGCGTCTGGAAAGGCGCGCGATACAGGGTGACAGCCCCGTACAC

Fig. 25

AAAAATGCACATGCTGTGAGCTCGATGAGTAGGGCGGGACACGTGGTATCCT
GTCTGAATATGGGGGGACCATCCTCCAAGGCTAAATACTCCTGACTGACCGA
TAGTGAACCAGTACCGTGAGGGAAAGGCGAAAAGAACCCCGGCGAGGGGA
GTGAAAAAGAACCTGAAACCGTGTACGTACAAGCAGTGGGAGCACGCTTAG
GCGTGTGACTGCGTACCTTTTGTATAATGGGTCAGCGACTTATATTCTGTAGC
AAGGTTAACCGAATAGGGGAGCCGAAGGGAAACCGAGTCTTAACTGGGCGT
TAAGTTGCAGGGTATAGACCCGAAACCCGGTGATCTAGCCATGGGCAGGTTG
AAGGTTGGGTAACACTAACTGGAGGACCGAACCGACTAATGTTGAAAAATT
AGCGGATGACTTGTGGCTGGGGGTGAAAGGCCAATCAAACCGGGAGATAGC
TGGTTCTCCCCGAAAGCTATTTAGGTAGCGCCTCGTGAATTCATCTCCGGGG
GTAGAGCACTGTTTCGGCAAGGGGGTCATCCCGACTTACCAACCCGATGCAA
ACTGCGAATACCGGAGAATGTTATCACGGGAGACACACGGCGGGTGCTAAC
GTCCGTCGTGAAGAGGGAAACAACCCAGACCGCCAGCTAAGGTCCCAAAGT
CATGGTTAAGTGGGAAACGATGTGGGAAGGCCCAGACAGCCAGGATGTTGG
CTTAGAAGCAGCCATCATTTAAAGAAAGCGTAATAGCTCACTGGTCGAGTCG
GCCTGCGCGGAAGATGTAACGGGGCTAAACCATGCACCGAAGCTGCGGCAG
CGACGCTTATGCGTTGTTGGGTAGGGGAGCGTTCTGTAAGCCTGCGAAGGTG
TGCTGTGAGGCATGCTGGAGGTATCAGAAGTGCGAATGCTGACATAAGTAAC
GATAAAGCGGGTGAAAAGCCCGCTCGCCGGAAGACCAAGGGTTCCTGTCCA
ACGTTAATCGGGGCAGGGTGAGTCGACCCCTAAGGCGAGGCCGAAAGGCGT
AGTCGATGGGAAACAGGTTAATATTCCTGTACTTGGTGTTACTGCGAAGGGG
GGACGGAGAAGGCTATGTTGGCCGGGCGACGGTTGTCCCGGTTTAAGCGTGT
AGGCTGGTTTTCCAGGCAAATCCGGAAAATCAAGGCTGAGGCGTGATGACG
AGGCACTACGGTGCTGAAGCAACAAATGCCCTGCTTCCAGGAAAAGCCTCTA
AGCATCAGGTAACATCAAATCGTACCCCAAACCGACACAGGTGGTCAGGTA
GAGAATACCAAGGCGCTTGAGAGAACTCGGGTGAAGGAACTAGGCAAAATG
GTGCCGTAACTTCGGGAGAAGGCACGCTGATATGTAGGTGAGGTCCCTCGCG
GATGGAGCTGAAATCAGTCGAAGATACCAGCTGGCTGCAACTGTTTATTAAA
AACACAGCACTGTGCAAACACGAAAGTGGACGTATACGGTGTGACGCCTGC
CCGGTGCCGGAAGGTTAATTGATGGGGTTAGCGCAAGCGAAGCTCTTGATCG
AAGCCCCGGTAAACGGCGGCCGTAACTATAACGGTCCTAAGGTAGCGAAAT
TCCTTGTCGGGTAAGTTCCGACCTGCACGAATGGCGTAATGATGGCCAGGCT
GTCTCCACCCGAGACTCAGTGAAATTGAACTCGCTGTGAAGATGCAGTGTAC
CCGCGGCAAGACGGAAAGACCCCGTGAACCTTTACTATAGCTTGACACTGAA
CATTGAGCCTTGATGTGTAGGATAGGTGGGAGGCTTTGAAGTGTGGACGCCA
GTCTGCATGGAGCCGACCTTGAAATACCACCCTTTAATGTTTGATGTTCTAAC
GTTGACCCGTAATCCGGGTTGCGGACAGTGTCTGGTGGGTAGTTTGACTGGG
GCGGTCTCCTCCTAAAGAGTAACGGAGGAGCACGAAGGTTGGCTAATCCTGG
TCGGACATCAGGAGGTTAGTGCAATGGCATAAGCCAGCTTGACTGCGAGCGT
GACGGCGCGAGCAGGTGCGAAAGCAGGTCATAGTGATCCGGTGGTTCTGAA
TGGAAGGGCCATCGCTCAACGGATAAAAGGTACTCCGGGGATAACAGGCTG
ATACCGCCCAAGAGTTCATATCGACGGCGGTGTTTGGCACCTCGATGTCGGC
TCATCACATCCTGGGGCTGAAGTAGGTCCCAAGGGTATGGCTGTTCGCCATT
TAAAGTGGTACGCGAGCTGGGTTTAGAACGTCGTGAGACAGTTCGGTCCCTA
TCTGCCGTGGGCGCTGGAGAACTGAGGGGGGCTGCTCCTAGTACGAGAGGA

Fig. 25

Cont.

CCGGAGTGGACGCATCACTGGTGTTCGGGTTGTCATGCCAATGGCACTGCCC
GGTAGCTAAATGCGGAAGAGATAAGTGCTGAAAGCATCTAAGCACGAAACT
TGCCCCGAGATGAGTTCTCCCTGACCCTTTAAGGGTCCTGAAGGAACGTTGA
AGACGACGACGTTGATAGGCCGGGTGTGTAAGCGCAGCGATGCGTTGAGCT
AACCGGTACTAATGAACCGTGAGGCTTAACCTTACAACGCCGAAGCTGTTTT
GGCGGATGAGAGAAGATTTTCAGCCTGATACAGATTAAATCAGAACGCAGA
AGCGGTCTGATAAAACAGAATTTGCCTGGCGGCAGTAGCGCGGTGGTCCCAC
CTGACCCCATGCCGAACTCAGAAGTGAAACGCCGTAGCGCCGATGGTAGTGT
GGGGTCTCCCCATGCGAGAGTAGGGAACTGCCAGGCATCAAATAAAACGAA
AGGCTCAGTCGAAAGACTGGGCCTTTCGTTTTATCTGTTGTTTGTCGGTGAAC
GCTCTCCTGAGTAGGACAAATCCGCCGGGAGCGGATTTGAACGTTGCGAAGC
AACGGCCCGGAGGGTGGCGGGCAGGACGCCCGCCATAAACTGCCAGGCATC
AAATTAAGCAGAAGGCCATCCTGACGGATGGCCTTTTTGCGTTTCTACAAAC
TCTTCCTGTCGTCATATCTACAAGCCATCCCCCCACAGATACGGTAAACTAGC
CTCGTTTTTGCATCAGGAAAGCAGCTATGAACCACTCCTTAAAACCCTGGAA
CACATTTGGCATTGATCATAATGCTCAGCACATTGTATGGGCCTTAAGGGCC
CAACAATTACTCAATGCCTGGCAGTATGCAACCGCAGAAGGACAACCCGTTC
TTATTCTGGGTGAAGGAAGTAATGTACTTTTTCTGGAGGACTATCGCGGCAC
GGTGATCATCAACCGGATCAAAGGTATCGAAATTCATGATGAACCTGATGCG
TGGTATTTACATGTAGGAGCCGGAGAAAACTGGCATCGTCTGGTAAAATACA
CTTTGCAGGAAGGTATGCCTGGTCTGGAAAATCTGGCATTAATTCCTGGTTGT
GTCGGCTCATCACCTATCCAGAATATTGGTGCTTATGGCGTAGAATTACAGC
GAGTTTGCGCTTATGTTGATTCTGTTGAACTGGCGACAGGCAAGCAAGTGCG
CTTAACTGCCAAAGAGTGCCGTTTTGGCTATCGCGACAGTATTTTTAAACATG
AATACCAGGACCGCTTCGCTATTGTAGCCGTAGGTCTGCGTCTGCCAAAAGA
GTGGCAACCTGTACTAACGTATGGTGACTTAACTCGTCTGGGATCCACAGGA
CGGGTGTGGTCGCCATGATCGCGTAGTCGATAGTGGCTCCAAGTAGCGAAGC
GAGCAGGACTGGGCGGCGGCCAAAGCGGTCGGACAGTGCTCCGAGAACGGG
TGCGCATAGAAATTGCATCAACGCATATAGCGCTAGCAGCACGCCATAGTGA
CTGGCGATGCTGTCGGAATGGACGATATCCCGCAAGAGGCCCGGCAGTACC
GGCATAACCAAGCCTATGCCTACAGCATCCAGGGTGACGGTGCCGAGGATG
ACGATGAGCGCATTGTTAGATTTCATACACGGTGCCTGACTGCGTTAGCAAT
TTAACTGTGATAAACTACCGCATTAAAGCTTATCGATGATAAGCTGTCAAAC
ATGAGAATTCTTGAAGACGAAAGGGCCTCGTGATACGCCTATTTTTATAGGT
TAATGTCATGATAATAATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGA
AATGTGCGCGGAACCCCTATTTGTTTATTTTTCTAAATACATTCAAATATGTA
TCCGCTCATGAGACAATAACCCTGATAAATGCTTCAATAATATTGAAAAAGG
AAGAGTATGAGTATTCAACATTTCCGTGTCGCCCTTATTCCCTTTTTTGCGGC
ATTTTGCCTTCCTGTTTTTGCTCACCCAGAAACGCTGGTGAAAGTAAAAGATG
CTGAAGATCAGTTGGGTGCACGAGTGGGTTACATCGAACTGGATCTCAACAG
CGGTAAGATCCTTGAGAGTTTTCGCCCCGAAGAACGTTTTCCAATGATGAGC
ACTTTTAAAGTTCTGCTATGTGGCGCGGTATTATCCCGTGTTGACGCCGGGCA
AGAGCAACTCGGTCGCCGCATACACTATTCTCAGAATGACTTGGTTGAGTAC
TCACCAGTCACAGAAAAGCATCTTACGGATGGCATGACAGTAAGAGAATTAT
GCAGTGCTGCCATAACCATGAGTGATAACACTGCGGCCAACTTACTTCTGAC

Fig. 25
Cont.

AACGATCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCACAACATGGGGGA
TCATGTAACTCGCCTTGATCGTTGGGAACCGGAGCTGAATGAAGCCATACCA
AACGACGAGCGTGACACCACGATGCCTGCAGCAATGGCAACAACGTTGCGC
AAACTATTAACTGGCGAACTACTTACTCTAGCTTCCCGGCAACAATTAATAG
ACTGGATGGAGGCGGATAAAGTTGCAGGACCACTTCTGCGCTCGGCCCTTCC
GGCTGGCTGGTTTATTGCTGATAAATCTGGAGCCGGTGAGCGTGGGTCTCGC
GGTATCATTGCAGCACTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTA
TCTACACGACGGGGAGTCAGGCAACTATGGATGAACGAAATAGACAGATCG
CTGAGATAGGTGCCTCACTGATTAAGCATTGGTAACTGTCAGACCAAGTTTA
CTCATATATACTTTAGATTGATTTAAAACTTCATTTTTAATTTAAAAGGATCT
AGGTGAAGATCCTTTTTGATAATCTCATGACCAAAATCCCTTAACGTGAGTTT
TCGTTCCACTGAGCGTCAGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAG
ATCCTTTTTTTCTGCGCGTAATCTGCTGCTTGCAAACAAAAAAACCACCGCTA
CCAGCGGTGGTTTGTTTGCCGGATCAAGAGCTACCAACTCTTTTTCCGAAGGT
AACTGGCTTCAGCAGAGCGCAGATACCAAATACTGTCCTTCTAGTGTAGCCG
TAGTTAGGCCACCACTTCAAGAACTCTGTAGCACCGCCTACATACCTCGCTCT
GCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAGTCGTGTCTTACC
GGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGGTCGGGCTGA
ACGGGGGGTTCGTGCACACAGCCCAGCTTGGAGCGAACGACCTACACCGAA
CTGAGATACCTACAGCGTGAGCTATGAGAAAGCGCCACGCTTCCCGAAGGG
AGAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGGAGAGCG
CACGAGGGAGCTTCCAGGGGGAAACGCCTGGTATCTTTATAGTCCTGTCGGG
TTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGGCG
GAGCCTATGGAAAAACGCCAGCAACGCGGCCTTTTTACGGTTCCTGGCCTTT
TGCTGGCCTTTTGCTCACATGTTCTTTCCTGCGTTATCCCCTGATTCTGTGGAT
AACCGTATTACCGCCTTTGAGTGAGCTGATACCGCTCGCCGCAGCCGAACGA
CCGAGCGCAGCGAGTCAGTGAGCGAGGAAGCGGAAGAGCGCCTGATGCGGT
ATTTTCTCCTTACGCATCTGTGCGGTATTTCACACCGCATATGGTGCACTCTC
AGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGTATACACTCCGCTATC
GCTACGTGACTGGGTCATGGCTGCGCCCCGACACCCGCCAACACCCGCTGAC
GCGCCCTGACGGGCTTGTCTGCTCCCGGCATCCGCTTACAGACAAGCTGTGA
CCGTCTCCGGGAGCTGCATGTGTCAGAGGTTTTCACCGTCATCACCGAAACG
CGCGAGGCAGCTGCGGTAAAGCTCATCAGCGTGGTCGTGAAGCGATTCACA
GATGTCTGCCTGTTCATCCGCGTCCAGCTCGTTGAGTTTCTCCAGAAGCGTTA
ATGTCTGGCTTCTGATAAAGCGGGCCATGTTAAGGGCGGTTTTTTCCTGTTTG
GTCACTTGATGCCTCCGTGTAAGGGGGAATTTCTGTTCATGGGGGTAATGAT
ACCGATGAAACGAGAGAGGATGCTCACGATACGGGTTACTGATGATGAACA
TGCCCGGTTACTGGAACGTTGTGAGGGTAAACAACTGGCGGTATGGATGCGG
CGGGACCAGAGAAAAATCACTCAGGGTCAATGCCAGCGCTTCGTTAATACA
GATGTAGGTGTTCCACAGGGTAGCCAGCAGCATCCTGCGATGCCTGGCGAAA
GGGGGATGTGCTGCAAGGCGATTAAGTTGGGTAACGCCAGGGTTTTCCCAGT
CACGACGTTGTAAAACGACGGCCAGTGAATTCGAGCTCGGTACCTGCACTGA
CGACAGGAAGAGTTTGTAGAAACGCAAAAAGGCCATCCGTCAGGATGGCCT
TCTGCTTAATTTGATGCCTGGCAGTTTATGGCGGGCGTCCTGCCCGCCACCCT
CCGGGCCGTTGCTTCGCAACGTTCAAATCCGCTCCCGGCGGATTTGTCCTACT

Fig. 25

Cont.

CAGGAGAGCGTTCACCGACAAACAACAGATAAAACGAAAGGCCCAGTCTTT
CGACTGAGCCTTTCGTTTTATTTGATGCCTGGCAGTTCCCTACTCTCGCATGG
GGAGACCCCACACTACCATCGGCGCTACGACTAGATTATTTGTAGAGCTCAT
CCATGCCATGTGTAATCCCAGCAGCAGTTACAAACTCAAGAAGGACCATGTG
GTCACGCTTTTCGTTGGGATCTTTCGAAAGGGCAGATTGTGTCGACAGGTAA
TGGTTGTCTGGTAAAAGGACAGGGCCATCGCCAATTGGAGTATTTTGTTGAT
AATGGTCTGCTAGTTGAACGGATCCATCTTCAATGTTGTGGCGAATTTTGAA
GTTAGCTTTGATTCCATTCTTTTGTTTGTCTGCCGTGATGTATACATTGTGTGA
GTTATAGTTGTACTCGAGTTTGTGTCCGAGAATGTTTCCATCTTCTTTAAAAT
CAATACCTTTTAACTCGATACGATTAACAAGGGTATCACCTTCAAACTTGACT
TCAGCACGCGTCTTGTAGTTCCCGTCATCTTTGAAAGATATAGTGCGTTCCTG
TACATAACCTTCGGGCATGGCACTCTTGAAAAAGTCATGCCGTTTCATATGA
TCCGGATAACGGGAAAAGCATTGAACACCATAAGAGAAAGTAGTGACAAGT
GTTGGCCATGGAACAGGTAGTTTTCCAGTAGTGCAAATAAATTTAAGGGTAA
GCTTTCCGTATGTAGCATCACCTTCACCCTCTCCACTGACAGAAAATTTGTGC
CCATTAACATCACCATCTAATTCAACAAGAATTGGGACAACTCCAGTGAAAA
GTTCTTCTCCTTTGCTCGCAGTGATTTTTTTCTCCATTTGCGGAGGGATATGA
AAGCGGCCGCTTCCACACATTAAACTAGTTCGATGATTAATTGTCAACAGCT
CGCCGGCGGCACCTCGCTAACGGATTCACCACTCCAAGAATTGGAGCCAATC
GATTCTTGCGGAGAACTGTGAATGCGGGTACCCAGATCCGGAACATAATGGT
GCAGGGCGCTGACTTCCGCGTTTCCAGACTTTACGAAACACGGAAACCGAAG
ACCATTCATGTTGTTGCTCAGGTCGCAGACGTTTTGCAGCAGCAGTCGCTTCA
CGTTCGCTCGCGTATCGGTGATTCATTCTGCTAACCAGTAAGGCAACCCCGC
CAGCCTAGCCGGGTCCTCAACGACAGGAGCACGATCATGCGCACCCGTGGCC
AGGACCCAACGCTGCCCGAGATGCGCCGCGTGCGGCTGCTGGAGATGGCGG
ACGCGATGGATATGTTCTGCCAAGGGTTGGTTTGCGCATTCACAGTTCTCCGC
AAGAATCGATTGGCTCCAATTCTTGGAGTGGTGAATCCGTTAGCGAGGTGCC
GCCGGCGAGCTGTTGACAATTAATCATCGAACTAGTTTAATGTGTGGAAGCG
GCCGCTTTCATATCCCTCCGCAAATGGAGAAAAAAATCACTGGATATACCAC
CGTTGATATATCCCAATGGCATCGTAAAGAACATTTTGAGGCATTTCAGTCA
GTTGCTCAATGTACCTATAACCAGACCGTTCAGCTGGATATTACGGCCTTTTT
AAAGACCGTAAAGAAAAATAAGCACAAGTTTTATCCGGCCTTTATTCACATT
CTTGCCCGCCTGATGAATGCTCATCCGGAATTCCGTATGGCAATGAAAGACG
GTGAGCTGGTGATATGGGATAGTGTTCACCCTTGTTACACCGTTTTCCATGAG
CAAACTGAAACGTTTTCATCGCTCTGGAGTGAATACCACGACGATTTCCGGC
AGTTTCTACACATATATTCGCAAGATGTGGCGTGTTACGGTGAAAACCTGGC
CTATTTCCCTAAAGGGTTTATTGAGAATATGTTTTTCGTCTCAGCCAATCCCT
GGGTGAGTTTCACCAGTTTTGATTTAAACGTGGCCAATATGGACAACTTCTTC
GCCCCCGTTTTCACCATGGGCAAATATTATACGCAAGGCGACAAGGTGCTGA
TGCCGCTGGCGATTCAGGTTCATCATGCCGTCTGTGATGGCTTCCATGTCGGC
AGAATGCTTAATGAATTACAACAGTACTGCGATGAGTGGCAGGGCGGGGCG
TAATTTTTTTAAGGCAGTTATTGGTGCCCTTAAACGCCTGGTGCTACGCCTGA
ATAAGTGATAATAAGCGGATGAATGGCAGAAATTCGAAAGCAAATTCGACC
CGGTCGTCGGTTCAGGGCAGGGTCGTTAAATAGCCGCTTATGTCTATTGCTG
GTTTACGGTTTATTGACTACCCGAAGCAGTGTGACCCTGTGCTTCTCAAATGC

Fig. 25
Cont.

CTGAGGGCAGTTTGCTCAGGTCTCCCGTGGGGGGAATAATTAACGGTATGA
GCCTTACGGCGGACGGATCGTGGCCGCAAGTGGGTCCGGCTAGAGGATCCG
ACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGA
AGAGAGTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTC
GCAGAGTATGCCGGTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGG
CCAGCCACGTTTCTGCGAAAACGCGGAAAAAGTGGAAGCGGCGATGGCGG
AGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTC
GTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAA
ATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGG
TGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACA
ATCTTCTCGCGCAACGGGTCAGTGGGCTGATCATTAACTATCCGCTGGATGA
CCAGGATGCCATTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTC
TTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGAC
GGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCG
CGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCGCGTCTGCGTCTGGCTGGC
TGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAG
GCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAATGA
GGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGC
GCAATGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGG
TAGTGGGATACGACGATACCGAAGACAGCTCATGTTATATCCCGCCGTCAAC
CACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGcGGACCGCTTG
CTGCAACTCTCTCAGGGCCAGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCT
CACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATACGCAAACCGCCTCTCC
CCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTTCCCGACTG
GAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTCATTAG
GCACCCCAGGCTTTACACTTTATGCTTCCGGCTCGTATAATGTGTGGAATTGT
GAGCGGATAACAATTTCACACAGCGGCCGCTGAGAAAAGCGAAGCGGCAC
TGCTCTTTAACAATTTATCAGACAATCTGTGTGGGCACTCGAAGATACGGAT
TCTTAACGTCGCAAGACGAAAAATGAATACCAAGTCTCAAGAGTGAACACG
TAATTCATTACGAAGTTTAATTCTTTGAGCGTCAAACTTTT

Fig. 25
Cont.

AAATTGAAGAGTTTGATCATGGCTCAGATTGAACGCTGGCGGCAGGCCTAAC
ACATGCAAGTCGAACGGTAACAGGAAGAAGCTTGCTTCTTTGCTGACGAGTG
GCGGACGGGTGAGTAATGTCTGGGAAACTGCCTGATGGAGGGGGATAACTA
CTGGAAACGGTAGCTAATACCGCATAACGTCGCAAGACCAAAGAGGGGGAC
CTTCGGGCCTCTTGCCATCGGATGTGCCCAGATGGGATTAGCTAGTAGGTGG
GGTAACGGCTCACCTAGGCGACGATCCCTAGCTGGTCTGAGAGGATGACCAG
CCACACTGGAACTGAGACACGGTCCAGACTCCTACGGGAGGCAGCAGTGGG
GAATATTGCACAATGGGCGCAAGCCTGATGCAGCCATGCCGCGTGTATGAAG
AAGGCCTTCGGGTTGTAAAGTACTTTCAGCGGGGAGGAAGGGAGTAAAGTT
AATACCTTTGCTCATTGACGTTACCCGCAGAAGAAGCACCGGCTAACTCCGT
GCCAGCAGCCGCGGTAATACGGAGGGTGCAAGCGTTAATCGGAATTACTGG
GCGTAAAGCGCACGCAGGCGGTTTGTTAAGTCAGATGTGAAATCCCCGGGCT
CAACCTGGGAACTGCATCTGATACTGGCAAGCTTGAGTCTCGTAGAGGGGGG
TAGAATTCCAGGTGTAGCGGTGAAATGCGTAGAGATCTGGAGGAATACCGG
TGGCGAAGGCGGCCCCCTGGACGAAGACTGACGCTCAGGTGCGAAAGCGTG
GGGAGCAAACAGGATTAGATACCCTGGTAGTCCACGCCGTAAACGATGTCG
ACTTGGAGGTTGTGCCCTTGAGGCGTGGCTTCCGGAGCTAACGCGTTAAGTC
GACCGCCTGGGGAGTACGGCCGCAAGGTTAAAACTCAAATGAATTGACGGG
GGCCCGCACAAGCGGCGGAGCATGTGGATTAATTCGATGCAACGCGAAGAA
CCTTACCTGGGTTTGACATGCACAGGACGCGTCTAGAGATAGGCGTTCCCTT
GTGGCCTGTGTGCAGGTGGTGCATGGCTGTCGTCAGCTCGTGTCGTGAGATG
TTGGGTTAAGTCCCGCAACGAGCGCAACCCTTGTCTCATGTTGCCAGCACGT
AATGGTGGGGACTCGTGAGAGACTGCCGGGGTCAACTCGGAGGAAGGTGGG
GATGACGTCAAGTCATCATGCCCCTTATGTCCAGGGCTTCACACATGCTACA
ATGGCCGGTACAAAGGGCTGCGATGCCGCGAGGTTAAGCGAATCCTTAAAA
GCCGGTCTCAGTTCGGATCGGGGTCTGCAACTCGACCCCGTGAAGTCGGAGT
CGCTAGTAATCGCAGATCAGCAACGCTGCGGTGAATACGTTCCCGGGCCTTG
TACACACCGCCCGTCACGTCATGAAAGTCGGTAACACCCGAAGCCAGTGGCC
TAACCCTCGGGAGGGAGCTGTCGAAGGTGGGATCGGCGATTGGGACGAAGT
CGTAACAAGGTAACCGTAGGGGAACCTGCGGTTGGATCATGGGATTACCTTA
AAGAAGCGTACTTTGTAGTGCTCACACAGATTGTCTGATAGAAAGTGAAAAG
CAAGGCGTTTACGCGTTGGGAGTGAGGCTGAAGAGAATAAGGCCGTTCGCTT
TCTATTAATGAAAGCTCACCCTACACGAAAATATCACGCAACGCGTGATAAG
CAATTTTCGTGTCCCCTTCGTCTAGACGTAGCGCCGATGGTAGTGTGGGGTCT
CCCCATGCGAGAGTAGGGAACTGCCAGGCATCAAATAAAACGAAAGGCTCA
GTCGAAAGACTGGGCCTTTCGTTTTATCTGTTGTTTGTCGGTGAACGCTCTCC
TGAGTAGGACAAATCCGCCGGGAGCGGATTTGAACGTTGCGAAGCAACGGC
CCGGAGGGTGGCGGGCAGGACGCCCGCCATAAACTGCCAGGCATCAAATTA
AGCAGAAGGCCATCCTGACGGATGGCCTTTTTGCGTTTCTACAAACTCTTCCT
GTCGTCACTGCAGGCATGCAAGCTTGGCGTAATCATGGTCATAGCTGTTTCCT
GTGTGAAATTGTTATCCGCTCACAATTCCACACAACATACGAGCCGGAAGCA
TAAAGTGTAAAGCCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATTGC
GTTGCGCTCACTGCCCGCTTTCCAGTCGGGAAACCTGTCGTGCCAGCTGCATT
AATGAATCGGCCAACGCGCGGGGAGAGGCGGTTTGCGTATTGGGCGCTCTTC
CGCTTCCTCGCTCACTGACTCGCTGCGCTCGGTCGTTCGGCTGCGGCGAGCG

Fig. 26

GTATCAGCTCACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGATA
ACGCAGGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGT
AAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCCTGACGAGC
ATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTAT
AAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCG
ACCCTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGC
GCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCGCT
CCAAGCTGGGCTGTGTGCACGAACCCCCCGTTCAGCCCGACCGCTGCGCCTT
ATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCA
CTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGT
GCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAG
TATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGG
TAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTGTTT
GCAAGCAGCAGATTACGCGCAGAAAAAAAGGATCTCAAGAAGATCCTTTGA
TCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACTCACGTTAAGGGAT
TTTGGTCATGAGATTATCAAAAAGGATCTTCACCTAGATCCTTTTAAATTAAA
AATGAAGTTTTAAATCAATCTAAAGTATATATGAGTAAACTTGGTCTGACAG
TTACCAATGCTTAATCAGTGAGGCACCTATCTCAGCGATCTGTCTATTTCGTT
CATCCATAGTTGCCTGACTCCCCGTCGTGTAGATAACTACGATACGGGAGGG
CTTACCATCTGGCCCCAGTGCTGCAATGATACCGCGAGACCCACGCTCACCG
GCTCCAGATTTATCAGCAATAAACCAGCCAGCCGGAAGGGCCGAGCGCAGA
AGTGGTCCTGCAACTTTATCCGCCTCCATCCAGTCTATTAATTGTTGCCGGGA
AGCTAGAGTAAGTAGTTCGCCAGTTAATAGTTTGCGCAACGTTGTTGCCATT
GCTACAGGCATCGTGGTGTCACGCTCGTCGTTTGGTATGGCTTCATTCAGCTC
CGGTTCCCAACGATCAAGGCGAGTTACATGATCCCCCATGTTGTGCAAAAAA
GCGGTTAGCTCCTTCGGTCCTCCGATCGTTGTCAGAAGTAAGTTGGCCGCAG
TGTTATCACTCATGGTTATGGCAGCACTGCATAATTCTCTTACTGTCATGCCA
TCCGTAAGATGCTTTTCTGTGACTGGTGAGTACTCAACCAAGTCATTCTGAGA
ATAGTGTATGCGGCGACCGAGTTGCTCTTGCCCGGCGTCAATACGGGATAAT
ACCGCGCCACATAGCAGAACTTTAAAAGTGCTCATCATTGGAAAACGTTCTT
CGGGGCGAAAACTCTCAAGGATCTTACCGCTGTTGAGATCCAGTTCGATGTA
ACCCACTCGTGCACCCAACTGATCTTCAGCATCTTTTACTTTCACCAGCGTTT
CTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGCAAAAAAGGGAATAAGG
GCGACACGGAAATGTTGAATACTCATACTCTTCCTTTTTCAATATTATTGAAG
CATTTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGA
AAAATAAACAAATAGGGGTTCCGCGCACATTTCCCCGAAAAGTGCCACCTGA
CGTCTAAGAAACCATTATTATCATGACATTAACCTATAAAAATAGGCGTATC
ACGAGGCCCTTTCGTCTCGCGCGTTTCGGTGATGACGGTGAAAACCTCTGAC
ACATGCAGCTCCCGGAGACGGTCACAGCTTGTCTGTAAGCGGATGCCGGGAG
CAGACAAGCCCGTCAGGGCGCGTCAGCGGGTGTTGGCGGGTGTCGGGGCTG
GCTTAACTATGCGGCATCAGAGCAGATTGTACTGAGAGTGCACCATATGCGG
TGTGAAATACCGCACAGATGCGTAAGGAGAAAATACCGCATCAGGCGCCAT
TCGCCATTCAGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCGGGCCTCTT
CGCTATTACGCCAGCTGGCGAAAGGGGGATGTGCTGCAAGGCGATTAAGTTG
GGTAACGCCAGGGTTTTCCCAGTCACGACGTTGTAAAACGACGGCCAGTGAA

Fig. 26
Cont.

TTCGAGCTCGGTACCTGCAGTGACGACAGGAAGAGTTTGTAGAAACGCAAA
AAGGCCATCCGTCAGGATGGCCTTCTGCTTAATTTGATGCCTGGCAGTTTATG
GCGGGCGTCCTGCCCGCCACCCTCCGGGCCGTTGCTTCGCAACGTTCAAATC
CGCTCCCGGCGGATTTGTCCTACTCAGGAGAGCGTTCACCGACAAACAACAG
ATAAAACGAAAGGCCCAGTCTTTCGACTGAGCCTTTCGTTTTATTTGATGCCT
GGCAGTTCCCTACTCTCGCATGGGGAGACCCCACACTACCATCGGCGCTACG
TCTAGATTATTTGTAGAGCTCATCCATGCCATGTGTAATCCCAGCAGCAGTTA
CAAACTCAAGAAGGACCATGTGGTCACGCTTTTCGTTGGGATCTTTCGAAAG
GGCAGATTGTGTCGACAGGTAATGGTTGTCTGGTAAAAGGACAGGGCCATCG
CCAATTGGAGTATTTTGTTGATAATGGTCTGCTAGTTGAACGGATCCATCTTC
AATGTTGTGGCGAATTTTGAAGTTAGCTTTGATTCCATTCTTTTGTTTGTCTGC
CGTGATGTATACATTGTGTGAGTTATAGTTGTACTCGAGTTTGTGTCCGAGAA
TGTTTCCATCTTCTTTAAAATCAATACCTTTTAACTCGATACGATTAACAAGG
GTATCACCTTCAAACTTGACTTCAGCACGCGTCTTGTAGTTCCCGTCATCTTT
GAAAGATATAGTGCGTTCCTGTACATAACCTTCGGGCATGGCACTCTTGAAA
AAGTCATGCCGTTTCATATGATCCGGATAACGGGAAAAGCATTGAACACCAT
AAGAGAAAGTAGTGACAAGTGTTGGCCATGGAACAGGTAGTTTTCCAGTAGT
GCAAATAAATTTAAGGGTAAGCTTTCCGTATGTAGCATCACCTTCACCCTCTC
CACTGACAGAAAATTTGTGCCCATTAACATCACCATCTAATTCAACAAGAAT
TGGGACAACTCCAGTGAAAAGTTCTTCTCCTTTGCTAGCAGTGATTTTTTTCT
CCATTTGCGGAGGGATATGAAAGCGGCCGCTTCCACACATTAAACTAGTTCG
ATGATTAATTGTCAACAGCTCGCCGGCGGCACCTCGCTAACGGATTCACCAC
TCCAAGAATTGGAGCCAATCGATTCTTGCGGAGAACTGTGAATGCGGGTACC
CAGATCCGGAACATAATGGTGCAGGGCGCTGACTTCCGCGTTTCCAGACTTT
ACGAAACACGGAAACCGAAGACCATTCATGTTGTTGCTCAGGTCGCAGACGT
TTTGCAGCAGCAGTCGCTTCACGTTCGCTCGCGTATCGGTGATTCATTCTGCT
AACCAGTAAGGCAACCCCGCCAGCCTAGCCGGGTCCTCAACGACAGGAGCA
CGATCATGCGCACCCGTGGCCAGGACCCAACGCTGCCCGAGATGCGCCGCGT
GCGGCTGCTGGAGATGGCGGACGCGATGGATATGTTCTGCCAAGGGTTGGTT
TGCGCATTCACAGTTCTCCGCAAGAATCGATTGGCTCCAATTCTTGGAGTGGT
GAATCCGTTAGCGAGGTGCCGCCGGCGAGCTGTTGACAATTAATCATCGAAC
TAGTTTAATGTGTGGAAGCGGCCGCTTTCATATCCCTCCGCAAATGGAGAAA
AAAATCACTGGATATACCACCGTTGATATATCCCAATGGCATCGTAAAGAAC
ATTTTGAGGCATTTCAGTCAGTTGCTCAATGTACCTATAACCAGACCGTTCAG
CTGGATATTACGGCCTTTTTAAAGACCGTAAAGAAAAATAAGCACAAGTTTT
ATCCGGCCTTTATTCACATTCTTGCCCGCCTGATGAATGCTCATCCGGAATTC
CGTATGGCAATGAAAGACGGTGAGCTGGTGATATGGGATAGTGTTCACCCTT
GTTACACCGTTTTCCATGAGCAAACTGAAACGTTTTCATCGCTCTGGAGTGA
ATACCACGACGATTTCCGGCAGTTTCTACACATATATTCGCAAGATGTGGCG
TGTTACGGTGAAAACCTGGCCTATTTCCCTAAAGGGTTTATTGAGAATATGTT
TTTCGTCTCAGCCAATCCCTGGGTGAGTTTCACCAGTTTTGATTTAAACGTGG
CCAATATGGACAACTTCTTCGCCCCCGTTTTCACCATGGGCAAATATTATACG
CAAGGCGACAAGGTGCTGATGCCGCTGGCGATTCAGGTTCATCATGCCGTCT
GTGATGGCTTCCATGTCGGCAGAATGCTTAATGAATTACAACAGTACTGCGA
TGAGTGGCAGGGCGGGGCGTAATTTTTTTAAGGCAGTTATTGGTGCCCTTAA

Fig. 26

Cont.

ACGCCTGGTGCTACGCCTGAATAAGTGATAATAAGCGGATGAATGGCAGAA
ATTCGAAAGCAAATTCGACCCGGTCGTCGGTTCAGGGCAGGGTCGTTAAATA
GCCGCTTATGTCTATTGCTGGTTTACGGTTTATTGACTACCCGAAGCAGTGTG
ACCCTGTGCTTCTCAAATGCCTGAGGCAGTTTGCTCAGGTCTCCCGTGGGG
GGGAATAATTAACGGTATGAGCCTTACGGCGGACGGATCGTGGCCGCAAGT
GGGTCCGGCTAGAGGATCCGACACCATCGAATGGTGCAAAACCTTTCGCGGT
ATGGCATGATAGCGCCCGGAAGAGAGTCAATTCAGGGTGGTGAATGTGAAA
CCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCG
TTTCCCGCGTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAACGCGGGAAAA
AGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACA
ACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTG
GCCCTGCACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATC
AACTGGGTGCCAGCGTGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAG
CCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGGGTCAGTGGGCTGAT
TATTAACTATCCGCTGGATGACCAGGATGCCATTGCTGTGGAAGCTGCCTGC
ACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAG
TATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTC
GCATTGGGcCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTC
GGCGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATT
CAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAA
CAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTGGTTG
CCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGCT
GCGCGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAG
CTCATGTTATATCCCGCCGTCAACCACCATCAAACAGGATTTTCGCCTGCTGG
GGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAA
GGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCG
CCCAATACGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGC
TGGCACGACAGGTTTCCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATT
AATGTGAGTTAGCTCACTCATTAGGCACCCCAGGCTTTACACTTTATGCTTCC
GGCTCGTATAATGTGTGGAATTGTGAGCGGATAACAATTTCACACAGCGGCC
GCTGAGAAAAAGCGAAGCGGCACTGCTCTTTAACAATTTATCAGACAATCTG
TGTGGGCACTCGAAGATACGGATTCTTAACGTCGCAAGACGAAAAATGAAT
ACCAAGTCTCAAGAGTGAACACGTAATTCATTACGAAGTTTAATTCTTTGAG
CGTCAAACTTTT

Fig. 26

Cont.